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# ZOOTAXA

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## **Catalogue of oribatid mites (Acari: Oribatida) from South Tyrol (Prov. Bolzano, Italy)**

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## Abstract

A checklist of the oribatid mites reported in South Tyrol (Italy) is presented, covering all published records until 2017. Numerous unpublished records are added. Several species were revised, doubtful and erroneous records from previous publications are discussed and corrected if necessary. A total of 397 described species in 71 families are listed, complemented by two subspecies and 15 undetermined or undescribed species. The list includes all records of each species in South Tyrol, their known distribution in the Italian Alps sorted to provinces, the distribution in Italy, occurrence in the neighbouring countries Austria and Switzerland, and their general distribution. Occasional additional remarks give taxonomic information. A historical overview of the exploration of the oribatid mites in South Tyrol is outlined. The general distribution of the oribatid mite fauna of South Tyrol is analysed. Beside species with a wide distribution the region includes many “Mediterranean” species, species with their main distribution in Central Europe, and species restricted to the Alps, the latter mainly in higher mountainous regions.

**Key words:** Sarcoptiformes, taxonomy, Alps, soil fauna

## Introduction

Inventories of known species from certain areas are important tools for further scientific studies (e.g. taxonomy, biogeography, ecology, molecular genetical comparisons) and as argumentation in applied assessments (nature conservation and management, biological indicators, etc.). A first checklist of oribatid mites from South Tyrol was published more than 20 years ago by Schmölzer & Hellrigl (1996, in “Die Tierwelt Südtirols”) which listed 111 species. Since then, numerous collections were carried out and the number of oribatid mite species recorded from South Tyrol increased intensely. The present catalogue gives an actual state of the research on oribatid mites in South Tyrol. From the biogeographical point of view, this country is of special interest, hosting a combination of alpine and Mediterranean landscapes with closely interlinked habitats.

South Tyrol (Südtirol, Alto Adige, Provincia Autonoma di Bolzano) is the northernmost Italian province with a surface of 7.400 km<sup>2</sup>. The province is surrounded by the Italian provinces Sondrio (Lombardy region) in the Southwest, Trento (forming together with South Tyrol the Autonomous Region Trentino—Alto Adige) in the South, and Belluno (Veneto region) in the Southeast, and borders on Switzerland (canton Grisons) in the West and Austria (North and East Tyrol, Salzburg) in the North and Northeast. The country is entirely located in the Alps and participates at the Central Eastern Alps and the Southern Limestone Alps (in South Tyrol particularly the Dolomites), divided by the Periadriatic suture (Pustertal and Giudicarie line). During the last Würm glaciation the country was almost completely covered with ice; only mountain peaks as nunataks protruded the ice sheet (Husen 1987). The landscape of South Tyrol is dominated by the mountains and extends from the southern slopes of the

glaciated Central Alps with elevations up to 3700–3900 m a.s.l.<sup>1</sup>, down to the Etsch / Adige valley which declines to 210 m at Salorno / Salurn. Only less than 4% of the country are located below 500 m; about two out of three parts lie above 1500 m. The climatic conditions differ, from alpine tundra climate in the high mountains above 2000 m, continental climate in large parts of the country, to dry and sunny subtropical climate in the Etsch / Adige valley area. According to this the landscape structure is dominated by shrubs and montane forests, montane and alpine pastures or high alpine landscapes, in the warm and densely populated main valleys prevails agriculture, especially pomiculture or viniculture.

## Material and methods

The catalogue contains all published records of oribatid mites in South Tyrol known to the author. Additionally, in the course of the compilation of this catalogue large parts of the material collected by my collaborators and myself were redetermined, confirmed or partially corrected (a list of corrections is given following the species list, see Table 1). Also several unpublished data from the investigated areas in South Tyrol were incorporated. On the other hand, species reported in the close vicinity of the South Tyrolean border in Comelico Superiore, Prov. Belluno (Padola, Malga Controndo, Kreuzbergpass / Passo Monte Croce di Comelico, Valle 1955, Zangheri 1963, Schmölzer & Hellrigl 1996, Marcuzzi 2003) are not included in this catalogue, just as little unpublished records from those areas (F. Bernini, pers. comm.). The order of the families follows Schatz *et al.* (2011, updated). Subgenera as used in Subías (2004–2018), mainly proposed as identifications tools, were generally not considered (some widely accepted exceptions are added after the author name of the species).

For each species following information is presented: (1) species name and author, (2) records in South Tyrol: habitats are summarized according to the respective reference, references are given in square brackets (referring to the information given in the following chapter “References with species records in South Tyrol”), and the name by which the species was reported in the reference (if different), (3) General distribution: known distribution in the provinces of the Italian Alps [BG Bergamo, BL Belluno, BS Brescia, BZ Bolzano / Bozen (South Tyrol), CN Cuneo, CO Como, GO Gorizia, PN Pordenone, SO Sondrio, TN Trento (Trentino), TO Torino, TS Trieste, UD Udine, TV Treviso, VI Vicenza, VR Verona], distribution in Italy<sup>2</sup> (Bernini *et al.* 1995, Stoch 2003), occurrence in neighbouring Austria (Krisper *et al.* 2017) and Switzerland, and general known distribution (based on Subías 2018, partially updated), also noteworthy habitat preferences (e.g. alpine habitats) or rareness are mentioned (sources supplemented by unpublished data by the author), (4) Remarks (occasionally): giving ad hoc taxonomic information to the respective species, possible synonymies, varieties, species inquirenda, uncertainties, etc.<sup>3</sup> Doubtful and erroneous records in the compilation of Schmölzer & Hellrigl (1996) are listed following the species list.

## References with species records in South Tyrol<sup>4</sup>

- [1] Janetschek (1957): Dolomites—Schlern / Sciliar area: Saslonch / Langkofel / Sassolungo (2400 m) (single record).
- [2] Mihelčič (1962): Pustertal / Val Pusteria, between Toblach / Dobbiaco and Bruneck / Brunico, in needle litter and moss (900–1200 m); Lana to Meran / Merano (300 m); surroundings of Brixen / Bressanone (600 m);

- 
1. All altitude indications are in metres above sea level (m a.s.l.), abbreviated as “m”.
  2. Northern Italy comprises the regions Friuli-Venezia Giulia, Veneto, Trentino-Alto Adige, Lombardia, Val d’Aosta, Piemonte, Liguria and Emilia-Romagna (Bernini *et al.* 1995), Southern Italy includes the remainig of continental Italy and the islands Sicily, Sardinia and the surrounding smaller islands.
  3. Schmölzer (1962) used the nomenclature and classification according to Sellnick (1928) and Willmann (1931). Therefore it can be assumed that he also might have adopted uncertain determinations based on those identification keys mentioned in the respective remarks. The original material of Schmölzer was not available for examination.
  4. Official languages in South Tyrol are German and Italian, also the Ladin language in the valleys of the Dolomites. The following reference list gives German, Italian and Ladin names (if available) of the localities mentioned, the species list contains municipal and areal entities (valleys) in both or all three languages (ordered according to the respective linguistic majorities), for other toponyms the local German names are used (see Ortner *et al.* 2016).

- surroundings of Bolzano / Bozen (300 m): in meridional environment; Kaltern / Caldaro: near Kalterer See / Lago di Caldaro (250 m) (single records).
- [3] Schmölzer (1962): Mountains around Brenner Pass / Passo del Brennero: Amthorspitze (2756 m), Flatschspitze (2567 m), Ralsspitze (= Rollspitze?) (2807 m), Wildseespitze (2733 m), Wolfendorn (2775 m), Zirogspitze (2645 m); Brennermäuerrl (2300 m), Flatschspitze (2560 m), Flatschspitze Westgrat (2450 m), Flatschspitze Westseite (2500 m), Griesbergalm (2050 m) [Austria], Griesbergkar [Austria] (2530 m), Hühnerspiel (2100–2700 m), Kalkjoch (2265 m), Leitneralpe (1890 m), Mäuerlscharte (2350 m) [Austria/Italy], Schlüsseljoch (2209 m), Zirogalpe (1870 m): dwarf shrub heath, *Rhododendretum*, alpine grassland, cushion plants, limestone phyllit scree, scree slope, boulders, snow combs, springs and moorland; nunataks.
- [4] Mihelčič (1964): several records of “*Belba piriformis*” and other Damaeidae, localities not specified; Welschnofen / Nova Levante: Karersee / Lago di Carezza—in needle litter of a spruce forest, moist habitat (1519 m) (single records).
- [5] Mihelčič (1965): (as [2]) (single records).
- [6] Schuster (1965): Klausen / Chiusa: Klosterberg Säben / Monastero Sabiona (600 m)—sweet chestnut (*Castanea sativa*), downy oaks (*Quercus pubescens*), shrubs (single records).
- [7] Mihelčič (1971): Southern Zillertal Alps (as [8]).
- [8] Christandl-Peskoller & Janetschek (1976): Southern Zillertal Alps (1850–3200 m) (Peskoller 1970 included).
- [9] Krisper (1983): [as 6] (leg. R. Schuster).
- [10] Krisper (1984): Montan / Montagna—Castelfeder, mixed deciduous forest (single record, leg. R. Schuster).
- [11] Krisper (1987): Urtijëi / St. Ulrich / Ortisei in Gröden; Fennberg / Favogna: deciduous forest (single record, leg. R. Schuster).
- [12] Schmölzer (1994): Mountains around Brenner Pass / Passo del Brennero (included records of [3], updated).
- [13] Schmölzer & Hellrigl (1996) (“Tierwelt Südtirols”) (includes records of [1, 2, 3, 4, 5, 7, 8, 12]).
- [14] Schatz & Gerecke (1996): Southern Zillertal Alps—Vintl / Vandoies: Finstertal (1600 m), in springs (single records).
- [15] Hellrigl (2002): Lüssen / Luson: in ant nest, in nest of *Formica polyctena* (leg. K. Hellrigl, 1998, det. H. Schatz) (single records).
- [16] Schatz (2005a) (riparian forests on the rivers Etsch / Adige and Talfer / Talvera, incl. biodiversity day 03): Lana / Lana: grove along the embankment of river Etsch / Adige (280 m); gravel embankment with shrubs. Burgstall / Postal: embankment with shrubs at river Etsch / Adige; dry meadow; riparian forest at river Etsch / Adige (280 m). Bolzano / Bozen: embankment with willow at river Etsch / Adige near Sigmundskron / Castel Firmiano (240 m); riparian forest with alder and willow at mouth of Talfer / Talvera: (280 m); riparian forest at river Talfer / Talvera below Runkelstein / Roncolo castle; gravel island with alder riparian forest (310 m); riparian forest with reeds and willows at mouth of river Eisack / Isarco; hillside forest near mouth of river Eisack / Isarco (240 m); Vadena / Pfatten: riparian forest at river Etsch / Adige (230 m); Neumarkt / Egna: riparian forest along river Etsch / Adige and at the mouth of Trudner Bach / Rio Trodena (220 m); ruderal area with shrubs on embankment of river Etsch / Adige; poplar riparian forest (215–220 m); Kurtinig / Cortina sulla Strada del Vino: ruderal area on embankment of river Etsch / Adige (215 m).
- [17] Schatz (2005b) (biodiversity day 04): Dolomites—Schlern / Sciliar area: Völs am Schlern / Fiè allo Sciliar—St. Konstantin / San Constantino: dry grassland (910 m); Pfarmmoos—bog (905 m).
- [18] Schatz (2005c) (biodiversity day 05): Natz-Schabs / Naz-Sciaves: Moor-Biotop Raier Moos / Biotopo Palù Raier—wetland (835 m); Ölberg—dry grassland (860 m).
- [19] Schatz (2006) (biodiversity day 06): Dolomites—Schlern / Sciliar area—Rosengarten / Catinaccio: Tiers / Tires: lower montane forest near Purgametsch (1500 m); montane wet meadow near Plafötsch (1460 m); subalpine forest near Malga Costa Hanigger / Hanigger Schwaige (1910 m); subalpine meadow, “Angelwiesen” near Hanigger Schwaige (1910 m); riparian forest along Angelbach below Hanigger Schwaige (1880 m); subalpine dry grassland around Hanigger Schwaige (1890 m).
- [20] Fischer & Schatz (2007) (biodiversity day 07): Dolomites—Schlern / Sciliar area: Kastelruth / Castelrotto: Sasplat / Plattkofel / Sassopiatto—wet meadow above Zallingerhütte / Rifugio Zallinger (2050 m); montane pine forest, bark on pine trees above Zallingerhütte (2060 m); scree slope at Sasplat / Plattkofel / Sassopiatto (2200 m); subalpine meadow at Cësa de Sasplat / Plattkofelhütte / Rifugio Sassopiatto (2300 m).
- [21] Schatz (2008a): Dolomites—Sciliar / Schlern: Kastelruth / Castelrotto—Seis / Siusi: Bad Ratzes / Bagni di



Razzes—montane forests (1220–1270 m); montane forest along brook with *Alnus incana* and *Picea abies*; montane forest along brook of Frötschbach (1220 m); Hauenstein / Castelveccchio—dry spruce forest (1270–1300 m); Saltner-Schwaige—hay meadow; dry grassland; marshy slope (1820–1870 m); Touristensteig—mountain pine shrubs with *Erica*, *Rhododendron* (2170 m); grassy dwarf shrub heath with cushion plants on cliff (2200–2220 m); Tierser Alpl / Alpe di Tires—scree with cushion plants (2440 m). Völs am Schlern / Fiè allo Sciliar: Völser Weiher / Lago di Fiè—pine forest with springs; marsh with willows and reeds; waterside with reeds (1020–1050 m); Hoferalpl—pine forest (1500 m); mountain pine shrubs (1600 m); Schlernplateau—subalpine grassland on volcanic rock layers, dry grassland, cushion plants, bogs in alpine grassland (2250 m); alpine pasture (2450 m); scree around summit Petz / M. Pez, cushion plants (2550–2560 m). Tiers / Tires—Weißlahn / Lavina Bianca: burnt forest site (1997), deciduous and pine forest (1180 m); larch forest pasture, dry grassland with scattered larch trees (1250 m). (Data of [21] also included in Schatz 2008b).

- [22] Fischer & Schatz (2009) (biodiversity day 08): Reschen / Resia: Froi—dry grassland (1550 m); subalpine larch forest pasture (1830 m); bog, marshy slope in Valtenlangental (1910 m); subalpine pasture with larches (2060 m).
- [23] Fischer & Schatz (2010) (Oribatid mites in wetlands): Tisens / Tesimo—Prissian / Prissiano: sedimentation zone at pond (570 m); Naraun / Narano: alder marsh forest with reed (670 m). Villnöß / Funes—St. Peter: marshy area in spruce forest (1300 m). Karneid / Cornedo all'Isarco—Steinegg / Collepietra: raised bog with purple moor grass (1315 m). Jenesien / San Genesio Atesino: Salten / Altopiano del Salto, “Gatterwald”—marshy slope with springs (1280–1420 m). Eppan / Appiano—Kleiner Montiggler See / Lago Piccolo di Monticolo: marsh forest on sedimentation zone (520 m); Unterrain, embankment of drainage ditch with reed (245 m). Neumarkt / Egna: embankment of drainage ditch at biotop “Großes Loch” (210 m). Margreid / Magrè—Fennberg / Favogna: waterside with reeds, beech deciduous mixed forest (1035 m). Unsere Liebe Frau im Walde—St. Felix / Senale—San Felice: bog and sedimentation zone at Felixer Weiher / Lago di Tret; reed (1600 m); bog near Bärenbad (1495 m). (leg. T. Kopf)
- [24] Schatz & Fischer (2010) (biodiversity day 09): Mouth of Ahrntal / Valle Aurina, Taufers / Tures / Ahrntal near Bruneck / Brunico: riparian forest and riparian pool at Ahr / torrente Aurino at Stegen / Stegona (830 m); montane spruce forest above St. Georgen / S. Giorgio (870–910 m); scree slope in spruce forest: in moss and lichens (920 m), cold air cave below scree slope (870 m); wet meadow “Möser” near St. Georgen (830 m).
- [25] Schatz & Fischer (2011) (biodiversity day 10): Pfelderer Tal / Val di Plan: subalpine meadow on limestone gravel (1800–1890 m); montane forest with *Rhododendron* and *Pinus cembra* (1805–1825 m); bog near Lazinser Hof (1775 m); dry grassland patches in bog (1772 m); *Alnetum viridis* and cushion plants in limestone cliff (1880 m).
- [26] Schatz & Fischer (2012) (biodiversity day 11): Münstertal / Val Monastero: dry grassland above Taufers / Tubre (1175–1600 m); mixed forest with scots pine and downy oaks on scree slope at Calvenwald (1220–1320 m).
- [27] Höpperger & Schatz (2013): Montan / Montagna: Castelfeder: dry grassland; cushion plants; lichens and moss on rocks; mixed deciduous forest; bog; around pond (350–400 m).
- [28] Schatz, Fischer & Höpperger (2013) (biodiversity day 12): Ridnauntal / Val Ridanna: subalpine dwarf shrub heath at Hüttebichl (1710 m); bog at Aglsboden (1700 m); rocky steppe at mouth of Burkhardklamm (1600 m); pond “Hilbenlacke”: submerged habitat: shallow pond with algae, mosses and sedges above the mining museum Ridnaun-Schneeberg / Ridanna Monteneve (1507 m); montane forest around pond “Hilbenlacke” (1510 m); dry grassland near mining museum (1450 m), bark on trees, lichens (1500–1600 m).
- [29] Schatz & Fischer (2014) (biodiversity day 13): La Val / Wengen / La Valle: Pra d'Armentara / Armentara—larch forest pasture (1916–2045 m); wet meadow, *Nardetum* (2028–2034 m); hilltop with *Rhododendretum* and larches (2036 m); subalpine meadow, marshy areas (1834–1836 m); on subalpine limestone rocks at the foot of Sas dla Crusc / Heiligkreuzkofel / Sasso di Santa Croce (2034 m); bark on trees (1947 m).
- [30] Fischer & Schatz (2015) (biodiversity day 14): Unsere Liebe Frau im Walde—St. Felix / Senale—San Felice: montane spruce forest around rivulet Mühlbach (1370–1430 m); bogs above St. Felix / San Felice (1450 m); bog and sedimentation zone at Felixer Weiher / Lago di Tret (1600 m); larch forest pasture (1530 m).
- [31] Schatz & Fischer (2016) (biodiversity day 15): Sarntal / Val Sarentino: subalpine meadow (calcareous

- grassland) (1620–1640 m); subalpine forest with *Alnetum viridis* on hillside above river Weißenbach / Riobianco (1587 m); montane forest beyond Kuhbergalm (1484–1565 m); bog Gisser Au (1296 m).
- [32] Schatz (2016) (biodiversity days summary).
- [33] Schatz (2017a): Dolomites—Sella Pass / Passo Sella / Sellajoch (2240–2255 m): alpine grassland.
- [34] Schatz (2017b) (Project Matscher Tal) Matscher Tal / Val di Mazia: dry grassland and pastures (1100 m, 1540–1580 m, 1915–1965 m); fertilized meadows (1430–1460 m); larch forest pasture (1500 m); montane pine forest near Matscher Alm (2020–2080 m).
- [35] Schatz (2017c) (biodiversity day 16): Matscher Tal / Val di Mazia: dry grassland near Sass (1850–1870 m); larch forest pasture (1845–1870 m); bog / marshy slope in sparse larch forest below Matsch / Mazia (1645 m); montane forest near hamlet Kurtatsch / Cortaccia, *Rhododendretum* / *Rhododendron*-Streu (1650 m); lichens on tree (1845 m).
- [unpubl.] additional unpublished records: Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest. Villnöß / Funes: around spring (1000–1500 m, leg. B. Sambugar, 2002). Tisens / Tesimo: marsh forest (670 m, leg. Y. Kiss & T. Kopf, 2009). La Val / Wengen / La Valle: Pra d’Armentara / Armentara—*Rhododendretum* (2036 m, leg. H. Schatz, 2013). Karneid / Cornedo all’Isarco—Steinegg / Collepietra: bog (1315 m, leg. Y. Kiss & T. Kopf, 2009). Jenesien / San Genesio Atesino: wet meadow; marshy slope with purple moor grass and springs (1315 m, leg. Y. Kiss & T. Kopf, 2009). Eppan / Appiano: Grafenon—reed (500 m, leg. Y. Kiss & T. Kopf, 2009); Kleiner Montiggler See / Lago Piccolo di Monticolo—marsh forest (520 m, leg. Y. Kiss & T. Kopf, 2009). Neumarkt / Egna: embankment of drainage ditch (210 m, leg. Y. Kiss & T. Kopf, 2009). Margreid / Magrè—Fennberg / Favogna: beech mixed deciduous forest; dry grassland (1035 m, leg. H. Schatz, 2009). Unsere Liebe Frau im Walde—St. Felix / Senale—San Felice: bog (1495 m, leg. Y. Kiss & T. Kopf, 2009); Gampenpass / Passo delle Palade: bog around spring (1520 m, leg. T. Kopf, 2013). Altrei / Anterivo: Langes Moos / Palù Longa—bog (1470–1500 m, leg. H. Schatz, biodiversity day 2002).

## Species list

### Fam. Brachychthoniidae

*Brachychthonius berlesei* Willmann, 1928

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [35]. Bolzano / Bozen: riparian forest at mouth of river Eisack / Isarco [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Holarctic.

*Brachychthonius bimaculatus* Willmann, 1936

**South Tyrol:** Dolomites—Schlern / Sciliar area: Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Holarctic.

*Brachychthonius pius* Moritz, 1976

**South Tyrol:** Münstertal / Val Monastero: dry grassland [26]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily; Austria; Switzerland; Central, South, West Europe; Holarctic.

*Eobrachychthonius latior* (Berlese, 1910)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; bog; montane forest; montane pine forest [34, 35].

**General distribution:** Italian Alps: BL BZ; northern, southern Italy, Sardinia; Austria; Holarctic.

*Eobrachychthonius longisetosus* Csiszar, 1961

**South Tyrol:** Dolomites—Schlern / Sciliar area: Völser Weiher—waterside with reeds [21].

**General distribution:** Italian Alps: BZ; Central Europe (western Hungary and northeastern Germany, Weigmann



2006).

*Eobrachychthonius oudemansi* Hammen, 1952

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Holarctic to cosmopolitan; rare.

*Eobrachychthonius* sp.

**South Tyrol:** Mountains around Brenner Pass: cushion plants [3, 12, 13].

*Liochthonius brevis* (Michael, 1888)

**South Tyrol:** Mountains around Brenner Pass: cushion plants [3, sub *Brachychthonius perpusillus*]; idem [12, 13, also on Austrian side of the border]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis* [31, 32, sub *Liochthonius simplex*]. Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs [21, sub *Liochthonius leptaleus*].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic.

**Remark:** synonym: *Brachychthonius perpusillus* Berlese, 1910.

*Liochthonius gisini* (Schweizer, 1948)

**South Tyrol:** Mountains around Brenner Pass: *Rhododendretum* (1900 m) [12, 13].

**General distribution:** Italian Alps: BZ (Mountains around Brenner Pass); Switzerland; Central Europe; Palaearctic.

*Liochthonius horridus* (Sellnick, 1928)

**South Tyrol:** Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; Palaearctic.

*Liochthonius hystricinus* (Forsslund, 1942)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest; Hauenstein—dry spruce forest [21]. St. Felix / San Felice: bogs [30].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; Holarctic, South America.

*Liochthonius lapponicus* (Trägårdh, 1910)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine pasture [22]. Matscher Tal / Val di Mazia: dry grassland; montane forest [34, 35]. Pfelderer Tal / Val di Plan: subalpine meadow; montane forest with *Rhododendron*; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs; Saltner-Schwaige—hay meadow; dry grassland; marshy slope; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; subalpine forest; brookside Angelbach, montane wet meadow [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Bolzano / Bozen: riparian forest with reeds and willows at mouth of river Eisack / Isarco [16]. St. Felix / San Felice: bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; Holarctic.

*Liochthonius sellnicki* (Thor, 1930)

**South Tyrol:** Reschen / Resia: marshy slope; subalpine larch forest [22]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: montane forest [28]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hoferalpl—mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz /

M. Pez, cushion plants [21]; Tiers / Tires: subalpine forest; subalpine dry grassland [19]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic.

*Liochthonius strenzkei* Forsslund, 1963

**South Tyrol:** Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff Schlernplateau—alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; montane pine forest [20]; Sella Pass—alpine grassland [33]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ; northern, southern? Italy, Sicily?, Sardinia; Austria; Switzerland; Holarctic.

*Neobrachythionius marginatus* (Forsslund, 1942)

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2600 m) [12, 13, sub *Liochthonius neosimplex*]

**General distribution:** Italian Alps: BZ (Mountains around Brenner Pass); [southern Italy ssp. *N. magnus marginatus*]; Austria; Switzerland; Palaearctic.

**Remark:** synonym: *Brachythionius neosimplex* Schweizer, 1956 according to Subías (2004, 2018).

*Poecilochthonius italicus* (Berlese, 1910)

**South Tyrol:** Mountains around Brenner Pass: cushion plants, springs and moorland (2280–2775 m) [3, sub *Brachythionius italicus*, 12, 13, also on Austrian side of the border]. Matscher Tal / Val di Mazia: dry grassland [35]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hoferalpl—mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; southern Palaearctic, Holarctic.

*Poecilochthonius spiciger* (Berlese, 1910)

**South Tyrol:** Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BZ VI; northern, southern Italy; Austria; Switzerland; Holarctic, Neotropical.

*Sellnickochthonius hungaricus* (Balogh, 1943)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers [21]. Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sardinia; Austria; Switzerland; southern Palaearctic.

*Sellnickochthonius immaculatus* (Forsslund, 1942)

**South Tyrol:** Matscher Tal / Val di Mazia: fertilized meadows [34]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: montane wet meadow [19]. Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic, Neotropical.

*Sellnickochthonius rostratus* (Jacot, 1936)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Holarctic.

*Sellnickochthonius suecicus* (Forsslund, 1942)

**South Tyrol:** Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; cosmopolitan.

*Sellnickochthonius zelawaiensis* (Sellnick, 1928)

**South Tyrol:** Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; Holarctic.

*Synchthonius crenulatus* (Jacot, 1938)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow; dry grassland; marshy slope [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Holarctic.

*Synchthonius elegans* Forsslund, 1957

**South Tyrol:** Dolomites—Schlern / Sciliar area: Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—montane pine forest [20].

**General distribution:** Italian Alps: BZ; southern Italy, Sardinia; Austria; Holarctic.

*Verachthonius laticeps* (Strenzke, 1951)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Münstertal / Val Monastero: dry grassland [26].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; southern Palaearctic.

## **Fam. Eniochthoniidae**

*Eniochthonius minutissimus* (Berlese, 1904)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dry grassland [28]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BG BS BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic to semicosmopolitan.

## **Fam. Hypochthoniidae**

*Hypochthonius luteus* Oudemans, 1917

**South Tyrol:** Münstertal / Val Monastero: downy oaks on scree slope [26]. Dolomites—Schlern / Sciliar area: Tiers / Tires: burnt forest site, deciduous and pine forest [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic, New Zealand.

*Hypochthonius rufulus* C.L. Koch, 1835

**South Tyrol:** Matscher Tal / Val di Mazia: fertilized meadows; bog [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis*; bog Gisser Au [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland

[18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; St. Konstantin—dry grassland; bog [17]; Tiers / Tires: montane wet meadow [19]. Burgstall / Postal: riparian forest [16]. Karneid / Cornedo all’Isarco: bog [23]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—around pond [27]. Neumarkt / Egna: embankment of drainage ditch; riparian forest and ruderal area at river Etsch / Adige [16, 23]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: bogs [23, 30].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; semicosmopolitan.

### Fam. Mesoplophoridae

*Mesoplophora pulchra* Sellnick, 1928 [*Mesoplophora (Parplophora)*]

**South Tyrol:** Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; Italy (locality of record not specified); Austria; Holarctic; rare.

### Fam. Cosmochthoniidae

*Cosmochthonius lanatus* (Michael, 1885)

**South Tyrol:** Fennberg / Favogna: dry grassland [unpubl.].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily, Sardinia; Austria; Switzerland; southern Palaearctic, semicosmopolitan.

### Fam. Sphaerochthoniidae

*Sphaerochthonius splendidus* (Berlese, 1904)

**South Tyrol:** Münstertal / Val Monastero: dry grassland [26]. Fennberg / Favogna: dry grassland [unpubl.].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; southern Palaearctic, Holarctic to semicosmopolitan.

### Fam. Heterochthoniidae

*Heterochthonius gibbus* (Berlese, 1910)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Switzerland; southern Palaearctic; rare.

### Fam. Eulohmanniidae

*Eulohmannia ribagai* (Berlese, 1910)

**South Tyrol:** Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: montane forest [31]. Klausen / Chiusa—Säben: leaf litter under shrubs [6]. Dolomites—Schlern / Sciliar area: Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Hoferalpl—mountain pine shrubs; Schlernplateau—alpine pasture [21]; Sella Pass—alpine grassland [33]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BZ TN (locus typicus); northern, southern Italy; Austria; Switzerland; Holarctic, Oriental.

## Fam. Epilohmanniidae

*Epilohmannia cylindrica* (Berlese, 1904)

**South Tyrol:** surroundings of Lana and Meran / Merano; Bolzano / Bozen: in meridional environment [2, 5, 13, sub *E. szanisloi*].

**General distribution:** Italian Alps: BS BZ; northern, southern Italy, Sicily, Sardinia; Austria; Holarctic to semicosmopolitan.

**Remark:** synonym: *Epilohmannia szanisloi* (Oudemans, 1915).

*Epilohmannia cylindrica* ssp. *minima* Schuster, 1960

**South Tyrol:** Bolzano / Bozen: riparian forest with reeds and willows at mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily; Austria; Switzerland; southern Palaearctic; rare.

## Fam. Euphthiracaridae

*Acrotritia ardua* (C.L. Koch, 1841)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22, sub *Rhysotritia ardua*]. Matscher Tal / Val di Mazia: dry grassland [35, sub *Rhysotritia ardua*]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26, sub *Rhysotritia ardua*]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25, sub *Rhysotritia ardua*]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28, sub *Rhysotritia ardua*]. Burgstall / Postal: embankment with shrubs, riparian forest at river Etsch / Adige [16, sub *Rhysotritia ardua*]. Tisens / Tesimo: marsh forest [23, sub *Rhysotritia ardua*]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18, sub *Rhysotritia ardua*]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24, sub *Rhysotritia ardua*]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—waterside with reeds; Hoferalpl—mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; [21, sub *Rhysotritia ardua*]; Tiers / Tires: burnt forest site, deciduous and pine forest [21, sub *Rhysotritia ardua*]; subalpine dry grassland [19, sub *Rhysotritia ardua*]. La Val / Wengen / La Valle: Armentara—subalpine meadow [29, sub *Rhysotritia ardua*]. Bolzano / Bozen: riparian forest along river Etsch / Adige and Talfer / Talvera [16, sub *Rhysotritia ardua*]. Jenesien / San Genesio Atesino: marshy slope [23, sub *Rhysotritia ardua*]. Montan / Montagna: Castelfeder—dry grassland; mixed deciduous forest [27, sub *Rhysotritia ardua*]. Neumarkt / Egna: riparian forest along river Etsch / Adige and the mouth of Trudner Bach / Rio Trodena; embankment of drainage ditch [16, 23, both sub *Rhysotritia ardua*]. Kurtinig / Cortina sulla Strada del Vino: ruderal area on embankment of river Etsch / Adige [16, sub *Rhysotritia ardua*]. St. Felix / San Felice: bog around spring; sedimentation zone at Felixer Weiher / Lago di Tret: montane spruce forest [23, 30, both sub *Rhysotritia ardua*].

**General distribution:** Italian Alps: BS BZ SO TN TO VI; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; cosmopolitan.

*Acrotritia duplicata* (Grandjean, 1953)

**South Tyrol:** Tisens / Tesimo: marsh forest [23, sub *Rhysotritia duplicata*]. Karneid / Cornedo all'Isarco: bog [23, sub *Rhysotritia duplicata*].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic, Oriental.

*Euphthiracarus monodactylus* (Willmann, 1919)

**South Tyrol:** Sarntal / Val Sarentino: subalpine meadow [31]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29, 32, partially sub *Mesotritia nuda*].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Switzerland; Holarctic, New Guinea.



*Euphthiracarus reticulatus* (Berlese, 1913)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs [21, sub *E. cribrarius*].

**General distribution:** Italian Alps: BZ, TN (locus typicus); northern Italy; southern Palearctic.

**Remarks:** Morphologically very similar to *E. cribrarius* (Berlese, 1904) and *E. reticulatus alpinus* Märkel, 1964. Determination according to Niedbala (2011).

## Fam. Oribotritiidae

*Mesotritia nuda* (Berlese, 1887)

**South Tyrol:** Mountains around Brenner Pass: *Rhododendretum* (1900 m) [12, 13, sub *Entomotritia nuda*]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21]. Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Jenesien / San Genesio Atesino: bog around spring [23]. Unsere Liebe Frau im Walde / Senale—Gampenpass: bog around spring [unpubl.].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Holarctic, Central America; rare.

*Oribotritia berlesei* (Michael, 1898)

**South Tyrol:** Tisens / Tesimo: marsh forest [unpubl.]. Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs [21].

**General distribution:** Italian Alps: BG BL BZ TN; northern, southern Italy, Sicily; Austria; Palearctic; rare.

*Paratritia baloghi* Moritz, 1966

**South Tyrol:** Matscher Tal / Val di Mazia: montane pine forest [34].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; southern Palearctic; rare.

*Protoribotritia oligotricha* Märkel, 1963

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forests [21].

**General distribution:** Italian Alps: BZ; Switzerland; Holarctic (Europe, North America), western Oriental region.

**Remark:** teste W. Niedbala.

## Fam. Phthiracaridae

*Atropacarus clavigerus* (Berlese, 1904)

**South Tyrol:** Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; southern Palearctic.

*Atropacarus striculus* (C.L. Koch, 1836)

**South Tyrol:** Reschen / Resia: marshy slope [22]. Matscher Tal / Val di Mazia: larch forest pasture; bog [35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Tisens / Tesimo: sedimentation zone at pond [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; St. Konstantin—dry grassland; bog [17]; Hoferalpl—mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on



volcanic rock layers; bogs in alpine grassland; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow [20]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; lower montane forest; montane wet meadow; subalpine dry grassland [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; wet meadow, *Nardetum*; subalpine meadow; subalpine limestone rocks [29]. Karneid / Cornedo all'Isarco: bog [23]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—mixed deciduous forest; bog [27]. St. Felix / San Felice: bogs; sedimentation zone at Felixer Weiher / Lago di Tret; larch forest pasture [23, 30].

**General distribution:** Italian Alps: BL BS BZ TN; northern, southern Italy; Austria; Switzerland; semicosmopolitan.

*Austrophthiracarus pavidus* (Berlese, 1913)

**South Tyrol:** Zillertal Alps [8, 13, sub *Phthiracarus pavidus* (? , see remark)]. Karneid / Cornedo all'Isarco: bog [23, sub *Hoplophthiracarus illinoisensis*]. Jenesien / San Genesio Atesino: wet meadow [unpubl.]. [Mountains around Brenner Pass, on Austrian side of the border, 12, 13, sub *Phthiracarus pavidus*].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; southern Palearctic, Holarctic, western Oriental.

**Remark:** The identity of this species is still unresolved, and the differentiation from *Hoplophthiracarus illinoisensis* (Ewing, 1910) is not clear. Possible synonym: “*Phthiracarus pavidus*” sensu Willmann (1931) is *Hoplophthiracarus illinoisensis* (Ewing, 1910) nec Berlese according to Weigmann (2006). *Austrophthiracarus pavidus* was frequently found in other regions of the Southern Alps (type locality in Prov. Trento). *Hoplophthiracarus illinoisensis* was reported from central and northern Europe, Romania, eastern Palearctic and western Oriental region: Iran, Nepal, North India (Niedbala 2012).

*Phthiracarus boresetosus* Jacot, 1930

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Völser Weiher—pine forest with springs; waterside with reeds [21].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic to semicosmopolitan, mainly in subtropical and tropical regions.

*Phthiracarus compressus* Jacot, 1930

**South Tyrol:** La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Holarctic.

*Phthiracarus crenophilus* Willmann, 1951

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2450 m) [12, 13]

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Europe.

**Remark:** synonym of *Phthiracarus longulus* (C.L. Koch, 1841) according to Subías (2012, 2018).

*Phthiracarus crinitus* (C.L. Koch, 1841)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook [21, sub *Ph. lentulus*]; Völser Weiher—pine forest with springs, marsh with willows and reeds [21, sub *Ph. lentulus*]; Sella Pass—alpine grassland [33]. St. Felix / San Felice: bog around spring [23].

**General distribution:** Italian Alps: BS BZ TN; northern Italy; Austria; Switzerland; Central, South, Southeast Europe; southwestern Palearctic.

*Phthiracarus ferrugineus* (C.L. Koch, 1841)

**South Tyrol:** Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Eppan / Appiano: embankment of drainage ditch; Kleiner Montiggler See—marsh forest [23, sub *Ph. italicus*].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Holarctic.

*Phthiracarus globosus* (C.L. Koch, 1841)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; bog; montane forest [35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; rocky steppe [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; around cold air cave; wet meadow [24]. Dolomites—Schlern / Sciliar area: Völser Weiher—marsh with willows; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Sella Pass—alpine grassland [33]. La Val / Wengen / La Valle: Armentara—larch forest pasture; subalpine limestone rocks [29]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: larch forest pasture [30].  
**General distribution:** Italian Alps: BG BL BZ TN UD; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic.

*Phthiracarus laevigatus* (C.L. Koch, 1844)

**South Tyrol:** Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: larch forest pasture; bog; montane pine forest; montane forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; dry grassland; bark on trees, lichens [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Burgstall / Postal: embankment with shrubs and riparian forest at river Etsch / Adige [16]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; montane forests; Hauenstein—dry spruce forest [21]; St. Konstantin—dry grassland; bog [17]; Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpl—pine forest; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl: scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest; scree slope [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; lower montane forest; montane wet meadow; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; wet meadow, *Nardetum*; subalpine limestone rocks [29]. Bolzano / Bozen: riparian forest on Talfer / Talvera [16]. Karneid / Cornedo all'Isarco: bog [23]. Jenesien / San Genesio Atesino: wet meadow; marshy slope with springs [23, unpubl.]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: riparian forest and ruderal area along river Etsch / Adige and the mouth of Trudner Bach / Rio Trodena; embankment of drainage ditch [16, 23]. Kurtinig / Cortina sulla Strada del Vino: ruderal area on embankment of river Etsch / Adige [16]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: bog around spring; bog and sedimentation zone at Felixer Weiher / Lago di Tret; larch forest pasture; montane spruce forest [23, 30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Palearctic to semicosmopolitan.

*Phthiracarus longulus* (C.L. Koch, 1841)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Sarntal / Val Sarentino: montane forest [31]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forests [21, sub *Ph. clavatus*]; montane forest along brook [21, 32 sub *Ph. anonymus*]; Plattkofel—montane pine forest [20, 32 sub *Ph. anonymus*]; Sella Pass—alpine grassland [33]. Eppan / Appiano: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic, Neotropical.

*Steganacarus applicatus* (Sellnick, 1920) [*Steganacarus (Steganacarus)*]

**South Tyrol:** Ridnauntal / Val Ridanna: pond “Hilbenlacke” (submerged habitat) [28]; montane forest [28, sub *St. herculeanus*]. Villnöß / Funes: marshy area in spruce forest [23, sub *St. magnus*]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; Tiers / Tires: lower montane forest [19].

Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: montane spruce forest; bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Europe, western Palearctic.

*Steganacarus carinatus* (C.L. Koch, 1841) [*Steganacarus (Tropacarus)*]

**South Tyrol:** Tisens / Tesimo: marsh forest [23]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17]; Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpl—pine forest; mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Jenesien / San Genesio Atesino: wet meadow [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: embankment of drainage ditch [23]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BG BL BZ CO TN UD TV; northern, southern Italy, Sicily; Austria; Switzerland; Palearctic.

*Steganacarus vernaculus* Niedbala, 1982 [*Steganacarus (Steganacarus)*]

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; Hoferalpl—pine forest; mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; Austria; Central Europe.

**Remark:** teste W. Niedbala.

## Fam. Crotoniidae

*Camisia biurus* (C.L. Koch, 1839)

**South Tyrol:** Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: larch forest pasture; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine meadow [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Dolomites—Schlern / Sciliar area: Hoferalpl—pine forest; Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: larch forest pasture, dry grassland [21]; subalpine forest [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Holarctic.

*Camisia biverrucata* (C.L. Koch, 1839)

**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope in spruce forest; around cold air cave [24]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: larch forest pasture, dry grassland [21].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Camisia horrida* (Hermann, 1804)

**South Tyrol:** Southern Zillertal Alps (1850–2150 m) [7, 8, 13]. Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Ridnauntal / Val Ridanna: bark on trees, lichens [28]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Touristensteig—Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. St. Felix / San Felice: larch forest pasture

[30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic, Oriental, Central America.

*Camisia invenusta* (Michael, 1888)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers [21].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; Palearctic.

*Camisia segnis* (Hermann, 1804)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath (2100 m) [3, 12, 13]. Matscher Tal / Val di Mazia: dry grassland; montane pine forest [34]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Burgstall / Postal: embankment with shrubs at river Etsch / Adige [16]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests [21]; St. Konstantin—dry grassland; bog [17]; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]. Neumarkt / Egna: riparian forest along river Etsch / Adige and the mouth of Trudner Bach / Rio Trodena [16].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy; Austria; Switzerland; cosmopolitan.

*Camisia solhoeyi* Colloff, 1993

**South Tyrol:** Dolomites—Schlern / Sciliar area: Plattkofel—scree slope [20].

**General distribution:** Italian Alps: BZ; southern Italy; Palearctic; rare. Mainly in alpine habitats.

*Camisia spinifer* (C.L. Koch, 1835)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Dolomites—Schlern / Sciliar area: Touristensteig—grassy dwarf shrub heath with cushion plants on cliff [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic, Oriental, Neotropical.

*Heminothrus targionii* (Berlese, 1885)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath (2450 m) [3, 12, 13]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24]. Dolomites—Schlern / Sciliar area: Plattkofel—subalpine meadow [20]; Hoferalpl—mountain pine shrubs [21].

**General distribution:** Italian Alps: BZ TN [“Veneto”]; northern, southern Italy; Austria; Switzerland; Holarctic, Central America.

*Neonothrus humicolus* (Forsslund, 1955)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Schlernplateau—bogs in alpine grassland [21].

**General distribution:** Italian Alps: BZ; Holarctic, “arctoalpine”.

*Platynothrus peltifer* (C.L. Koch, 1839)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath (2450 m) [3, 12, 13]. Reschen / Resia: marshy slope; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; bog; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis*; bog Gisser Au [31]. Burgstall / Postal: embankment with shrubs at river Etsch / Adige [16]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; around cold air cave; wet meadow [24]. Villnöß / Funes: marshy area in spruce forest; around spring [23, unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest [21]; St. Konstantin—dry grassland; bog [17]; Völser Weiher—pine forest with springs; marsh with



willows and reeds; Hoferalpl—pine forest, mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture [21]; Tiers / Tires: lower montane forest; montane wet meadow; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine meadow [29]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: embankment of drainage ditch [23]. Fennberg / Favogna: waterside with reeds [23]. St. Felix / San Felice: bogs [23, 30].

**General distribution:** Italian Alps: BG BL BS BZ PN SO TN; northern, southern Italy, Sicily; Switzerland; Austria; Holarctic to semicosmopolitan.

*Platynothrus thori* (Berlese, 1904)

**South Tyrol:** Reschen / Resia: marshy slope [22]. Pfelderer Tal / Val di Plan: bog [25]. Sarntal / Val Sarentino: bog Gisser Au [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland [21]; Plattkofel—wet meadow [20]. La Val / Wengen / La Valle: Armentara—wet meadow, *Nardetum* [29]. Jenesien / San Genesio Atesino: wet meadow [23]. [Trentino: Eastern Dolomites, Passo di Rolle, 13].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic, Oriental.

## Fam. Hermannidae

*Hermannia convexa* (C.L. Koch, 1840)

**South Tyrol:** Eppan / Appiano: Kleiner Montiggler See: marsh forest [23].

**General distribution:** Italian Alps: BZ; Italy (locality of record not specified); Austria; Switzerland; Holarctic.

*Hermannia gibba* (C.L. Koch, 1839)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland (1900–2450 m) [3, 12, 13, also on Austrian side of the border]. Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest [21]; St. Konstantin—dry grassland; bog [17]; Völser Weiher—pine forest with springs; Hoferalpl—pine forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff [21]; Tiers / Tires: lower montane forest; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; wet meadow, *Nardetum* [29]. Eppan / Appiano: Grafenon—reed [unpubl.]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BG BL BZ SO TN; northern, southern Italy; Austria; Switzerland; Holarctic, Seychelles.

## Fam. Malaconothridae

*Malaconothrus monodactylus* (Michael, 1888)

**South Tyrol:** Reschen / Resia: marshy slope [22]. Matscher Tal / Val di Mazia: bog [35]. Pfelderer Tal / Val di Plan: bog [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; bog at “Aglsboden”; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: bog Gisser Au [31]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18, sub *M. egregius*]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Villnöß / Funes: marshy area in spruce forest [23, sub *Trimalaconothrus tardus*]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland,

marshy slope; Völser Weiher—pine forest with springs; marsh with willows and reeds; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland [21]; Plattkofel—wet meadow [20]; Tiers / Tires: montane wet meadow [19]. La Val / Wengen / La Valle: Armentara—wet meadow, *Nardetum* [29]. Eppan / Appiano: embankment of drainage ditch; Kleiner Montiggler See—marsh forest [23]. Montan / Montagna: Castelfeder—around pond [27]. Fennberg / Favogna: waterside with reeds [23]. St. Felix / San Felice: bogs [30]. [Mountains around Brenner Pass, on Austrian side of the border, 12, 13, sub *M. egregius*]

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia (sub *M. egregius*); Austria; Switzerland; Holarctic, Neotropical.

**Remark:** synonym: *Malaconothrus egregius* (Berlese, 1904).

*Tyrphonothus foveolatus* (Willmann, 1931)

**South Tyrol:** St. Felix / San Felice: bog and sedimentation zone at Felixer Weiher / Lago di Tret [23, sub *Trimalaconothrus foveolatus*].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic, Oriental.

*Tyrphonothus glaber* (Michael, 1888)

**South Tyrol:** Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17, 32, sub *T. maior*]; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—bogs in alpine grassland [21]. St. Felix / San Felice: bog and sedimentation zone at Felixer Weiher / Lago di Tret [23].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Holarctic.

*Tyrphonothus maior* (Berlese, 1910)

**South Tyrol:** Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25, sub *Trimalaconothrus maior*]. Ridnauntal / Val Ridanna: pond “Hilbenlacke” (submerged habitat) [28, sub *Trimalaconothrus maior*]. Sarntal / Val Sarentino: bog Gisser Au [31]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18, sub *Trimalaconothrus maior*]. St. Felix / San Felice: bogs [30, unpubl.].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; cosmopolitan.

## Fam. Nanhermanniidae

*Nanhermannia comitalis* Berlese, 1916

**South Tyrol:** Matscher Tal / Val di Mazia: bog [35]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17]; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; Tiers / Tires: montane wet meadow [19]. Karneid / Cornedo all’Isarco: bog [23]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: embankment of drainage ditch; Kleiner Montiggler See—marsh forest [23]. Neumarkt / Egna: embankment of drainage ditch [23]. St. Felix / San Felice: bogs; sedimentation zone at Felixer Weiher / Lago di Tret [23, 30].

**General distribution:** Italian Alps: BZ; Italy (locality of record not specified); Austria; Holarctic.

*Nanhermannia elegantula* Berlese, 1913

**South Tyrol:** Mountains around Brenner Pass: *Rhododendretum* (2000 m) [12, 13].

**General distribution:** Italian Alps: BZ TN; northern Italy; Austria; Switzerland; Holarctic.

*Nanhermannia nana* (Nicolet, 1855)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland, springs and moorland (1900–2450 m) [3, 12, 13, also on Austrian side of the border]. Matscher Tal / Val di Mazia: dry grassland; montane forest [35]. Sarntal / Val Sarentino: montane forest [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Völser Weiher—pine forest with springs; waterside with reeds [21]. Montan / Montagna: Castelfeder—mixed deciduous forest; around pond [27]. Neumarkt / Egna: embankment of drainage ditch [23]. Fennberg / Favogna: beech mixed deciduous forest



[23, sub *N. elegantula*].

**General distribution:** Italian Alps: BG BL BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic to semicosmopolitan.

*Nanhermannia sellnicki* Forsslund, 1958

**South Tyrol:** Matscher Tal / Val di Mazia: bog [35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog; leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis*; bog Gisser Au [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Völser Weiher—pine forest with springs; marsh with willows; Schlernplateau—subalpine grassland on volcanic rock layers [21]. Eppan / Appiano: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ TN; Austria; Palearctic.

## Fam. Nothridae

*Nothrus anauniensis* Canestrini & Fanzago, 1876

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland (2000–2385 m) [3, 12, 13, sub *N. biciliatus*, also on Austrian side of the border]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [35]. Münstertal / Val Monastero: dry grassland [26]. Sarntal / Val Sarentino: subalpine meadow [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Lana, Burgstall / Postal: riparian forest at river Etsch / Adige [16]; Bolzano / Bozen: riparian forest at mouth of Talfer / Talvera [16, sub *N. biciliatus*]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: riparian forest along river Etsch / Adige [16, sub *N. biciliatus*].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic, Australia.

**Remark:** synonym: “*Nothrus biciliatus*” sensu Willmann (1931) nec Koch.

*Nothrus borussicus* Sellnick, 1928

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants, springs and moorland (2280–2800 m) [3, 12, 13, also on Austrian side of the border]. Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: larch forest pasture [35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—waterside with reeds; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. La Val / Wengen / La Valle: Armentara—subalpine meadow; subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic, Neotropical.

*Nothrus palustris* C.L. Koch, 1839

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; bog [35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: montane forest; bog Gisser Au [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17]; Völser Weiher—pine forest with springs; marsh with willows; Bad Ratzes—montane forest along brook; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—wet meadow [20]; Tiers / Tires: montane wet meadow [19]. La Val / Wengen / La Valle: Armentara—wet meadow, *Nardetum* [29]; Karneid / Cornedo all’Isarco: bog [23]. Eppan / Appiano: embankment of drainage ditch; Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: bog and sedimentation zone at Felixer Weiher / Lago di Tret [23].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic.

*Nothrus pratensis* Sellnick, 1928

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath (2000 m) [3, 12, 13]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog [25]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Holarctic.

*Nothrus silvestris* Nicolet, 1855

**South Tyrol:** Tisens / Tesimo: marsh forest [23]. Dolomites—Schlern / Sciliar area: Touristensteig—grassy dwarf shrub heath with cushion plants on cliff [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Altrei / Anterivo: Langes Moos / Palù Longa—bog [unpubl.].

**General distribution:** Italian Alps: BL BZ SO TN; northern, southern Italy; Austria; Switzerland; Central America, New Zealand.

## Fam. Trhypochthoniidae

*Mainothrus badius* (Berlese, 1905)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Tiers / Tires: montane wet meadow [19]. La Val / Wengen / La Valle: Armentara—subalpine meadow [29].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Holarctic.

*Mucronothrus nasalis* (Willmann, 1929)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope [21]. Villnöß / Funes: marshy area in spruce forest [23]. Jenesien / San Genesio Atesino: wet meadow [23].

**General distribution:** Italian Alps: BZ TN VR; Austria; Switzerland; Holarctic to semicosmopolitan. Frequently in alpine springs.

*Trhypochthoniellus longisetus* (Berlese, 1904)

**South Tyrol:** Sarntal / Val Sarentino: bog Gisser Au (*T. longisetus* forma *longiseta* sensu Weigmann 2006) [31]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs [21]. St. Felix / San Felice: bog [unpubl., forma *longiseta*].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; semicosmopolitan.

*Trhypochthonius cladonicolus* (Willmann, 1919)

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25].

**General distribution:** Italian Alps: BZ; Austria; Holarctic.

*Trhypochthonius nigricans* Willmann, 1928

**South Tyrol:** Karneid / Cornedo all'Isarco: bog [unpubl.]. Jenesien / San Genesio Atesino: wet meadow [23].

**General distribution:** Italian Alps: BZ; Holarctic.

*Trhypochthonius tectorum* (Berlese, 1896)

**South Tyrol:** Mountains around Brenner Pass: alpine grassland, cushion plants (2265–2500 m) [12, 13]. Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland [34]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: subalpine meadow; montane forest with *Rhododendron*; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; scree slope [24]. Dolomites—Schlern / Sciliar area: Hoferalpl—pine forest, mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Karneid / Cornedo all'Isarco: bog [23]. Montan / Montagna: Castelfeder—dry

grassland; lichens and moss on rocks; mixed deciduous forest [27]. St. Felix / San Felice: larch forest pasture [30].  
**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy, Sardinia; Austria; Switzerland; semicosmopolitan.

**Fam. Hermannelliidae**

*Hermannella dolosa* Grandjean, 1931

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; Palearctic.

*Hermannella granulata* (Nicolet, 1855)

**South Tyrol:** Mountains around Brenner Pass: alpine grassland (2350 m) [3, 12, 13].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; southern Palearctic, Holarctic.

**Remark:** The determination key of Willmann (1931) does not give clear differences between the morphologically similar species *Hermannella granulata* and *punctulata/septentrionalis*, so the records of Schmölzer (1962, 1994) [3, 12, 13] remain doubtful.

*Hermannella septentrionalis* Berlese, 1910

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [35]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hoferalpl—pine forest, mountain pine shrubs [21]. Burgstall / Postal: riparian forest at river Etsch / Adige; Bolzano / Bozen: riparian forest at river Talfer / Talvera; near mouth of river Eisack / Isarco [16, 32, sub *H. granulata*]. Fennberg / Favogna: beech mixed deciduous forest [unpubl.]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BL BZ TN; northern Italy; Austria; southern Palearctic, Holarctic.

**Fam. Neoliodidae**

*Neoliodes theleproctus* (Hermann, 1804)

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; southern Palearctic, semicosmopolitan.

*Platylodes scaliger* (C.L. Koch, 1839)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: dry grassland [25]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; scree slope [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Montan / Montagna: Castelfeder—dry grassland; lichens on rocks [27].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; southern Palearctic, Holarctic.

*Poroliodes farinosus* (C.L. Koch, 1839)

**South Tyrol:** surroundings of Bolzano / Bozen: in meridional environment [2, sub *Liodes farinosus*, 13]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; Austria; southern Palearctic.

**Fam. Gymnodamaeidae**

*Arthrodamaeus femoratus* (C.L. Koch, 1839)

**South Tyrol:** Sarntal / Val Sarentino: montane forest [31].

**General distribution:** Italian Alps: BL BS BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; southern Palaearctic.

*Arthrodamaeus reticulatus* (Berlese, 1910)

**South Tyrol:** Mountains around Brenner Pass: alpine grassland, cushion plants (2200–2350 m) [12, 13, sub *Allodamaeus reticulatus*]. Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland [35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. surroundings of Lana, Meran / Merano, Brixen / Bressanone, Bolzano / Bozen: in meridional environment [2, 5, 13–14]. Dolomites—Schlern / Sciliar area: Hoferalpe—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—scree slope [20]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BL BZ TN (locus typicus); northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Central, South, West Europe, Mediterranean.

*Gymnodamaeus barbarossa* Weigmann, 2006

**South Tyrol:** Münstertal / Val Monastero: dry grassland [26]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24].

**General distribution:** Italian Alps: BZ; Austria; Central Europe.

*Gymnodamaeus bicostatus* (C.L. Koch, 1835)

**South Tyrol:** Münstertal / Val Monastero: dry grassland [26]. Pustertal / Val Pusteria, between Toblach / Dobbiaco and Bruneck / Brunico: in needle litter and moss; surroundings of Bolzano / Bozen: in meridional environment [2, 5, 13, 14]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; Austria; southern Palaearctic, Holarctic.

*Gymnodamaeus meyeri* Bayartogtokh & Schatz, 2009

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [34, 35].

**General distribution:** Italian Alps: BZ; Austria (North Tyrol—locus typicus); Central Eastern Alps (endemic).

**Remarks:** This is the second record of this recently described species, located in close vicinity of the type locality near Pfunds, North Tyrol (in about 20 km linear distance). The species was transferred into the genus *Joshuella* by Subías (2009, 2018).

*Plesiodamaeus craterifer* (Haller, 1884)

**South Tyrol:** Klausen / Chiusa—Säben: leaf litter under chestnut trees [6]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ TN TV; northern, southern Italy; southern Palaearctic.

## Fam. Licnobelbidae

*Licnobelba latiflabellata* (Paoli, 1908)

**South Tyrol:** Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BS BZ; northern, southern Italy, Sicily, Sardinia; Austria; southwestern Palaearctic.

## Fam. Licnodamaeidae

*Licnodamaeus costula* Grandjean, 1931

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [34].

**General distribution:** Italian Alps: BZ; Sicily, Sardinia; Austria; Mediterranean, southern Palaearctic.

*Licnodamaeus pulcherrimus* (Paoli, 1908)

**South Tyrol:** Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Pustertal / Val Pusteria, between Toblach / Dobbiacco and Bruneck / Brunico: in needle litter and moss; surroundings of Lana and Meran / Merano, Brixen / Bressanone: in meridional environment; Kaltern / Caldaro: near Kalterer See [2, 5, 13]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; southern Palaearctic.

*Licnodamaeus undulatus* (Paoli, 1908)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [34]. surroundings of Lana, Meran / Merano, Bolzano / Bozen: in meridional environment [2, 5, 13].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; southern Palaearctic, Oriental.

## Fam. Damaeidae

*Belba bartosi* Winkler, 1955

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; montane forest along brook; Hoferalpl—pine forest; mountain pine shrubs [21]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Central, South Europe, Mediterranean, southwestern Palaearctic.

*Belba compta* (Kulczynski, 1902)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath (2350 m) [3, 12, 13]. Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: bog; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff [21]; Tiers / Tires: lower montane forest; brookside Angelbach [19].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Palaearctic, Oriental.

*Belba corynopus* (Hermann, 1804)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest [21]; Tiers / Tires: subalpine forest [19]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Holarctic, Oriental.

*Belba pulchra* Mihelčič, 1964

**South Tyrol:** Welschnofen / Nova Levante: Karersee—spruce forest [4].

**General distribution:** Italian Alps: BZ (locus typicus), single record.

**Remark:** Subías (2004, 2018) placed this find in “Austria”, but no record of this species is known from there.

*Belba rossica* Bulanova-Zachvatkina, 1962

**South Tyrol:** several records, localities not specified [4, 13, sub *B. piriformis*, “Südtirol”—locus typicus]

**General distribution:** Italian Alps: BZ; Austria; Palaearctic.

**Remark:** synonym: *Belba piriformis* Mihelčič, 1964 according to Miko in Weigmann (2006).

*Belba* sp.

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [34].

*Damaeus auritus* C.L. Koch, 1835



**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath [3, sub *Belba gracilipes*, 12, 13, sub *Hypodamaeus auritus*, also on Austrian side of the border]. Southern Zillertal Alps (in almost all sites, 1850–3200 m) [13, sub *Hypodamaeus auritus*, 7, 8]. Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17]. Bolzano / Bozen: riparian forest near mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Palaearctic.

*Damaeus clavipes* (Hermann, 1804) [*Damaeus (Paradamaeus)*]

**South Tyrol:** Mountains around Brenner Pass: alpine grassland, cushion plants (2100–2700 m) [3, sub *Belba clavipes*, 12, 13, sub *Paradamaeus clavipes*]. Western Dolomites: Brixen / Bressanone: Kreuztal (2000 m) [13, leg. A. v. Peez]. Reschen / Resia: marshy slope; subalpine pasture [22]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Bolzano / Bozen: riparian forest at mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic.

*Damaeus gracilipes* (Kulczynski, 1902)

**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest. [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest; scree slope; around cold air cave [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29]. Karneid / Cornedo all’Isarco: bog [23]. St. Felix / San Felice: montane spruce forest [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Palaearctic, Holarctic?

*Damaeus onustus* (C.L. Koch, 1844) [*Damaeus (Adamaeus)*]

**South Tyrol:** Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sicily; Austria; Palaearctic.

*Damaeus riparius* Nicolet, 1855

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: larch forest pasture; bog; montane pine forest [34, 35]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest [24]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs [21]; Plattkofel—montane pine forest; scree slope [20]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Palaearctic.

*Epidamaeus berlesei* (Michael, 1898)

**South Tyrol:** Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpl—pine forest; mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; lower montane forest; subalpine forest [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Fennberg / Favogna: beech mixed deciduous forest [unpubl.].

**General distribution:** Italian Alps: BG BL BZ TN TV [“Veneto”]; northern, southern Italy; Austria; Switzerland; Central, South Europe, southwestern Palaearctic.

*Epidamaeus bituberculatus* (Kulczynski, 1902)

**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: larch forest pasture [35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath



[28].

**General distribution:** Italian Alps: BZ; Austria; Palearctic.

*Epidamaeus tatricus* (Kulczynski, 1902)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland (2265–2350 m) (sub *Belba tatrica*, 12, 13]. Reschen / Resia: subalpine larch forest and pasture [22].

**General distribution:** Italian Alps: BZ (Mountains around Brenner Pass); Austria; Switzerland; Holarctic; rare; mainly in montane to alpine habitats.

*Epidamaeus* sp.

**South Tyrol:** Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs [21].

*Kunstdamaeus diversipilis* (Willmann, 1951)

**South Tyrol:** Reschen / Resia: subalpine larch forest and pasture [22]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; Schlernplateau—bogs in alpine grassland; scree around summit Petz / M. Pez, cushion plants [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29].

**General distribution:** Italian Alps: BZ TN; Austria (Carinthia—locus typicus); Switzerland; Alps (endemic). Mainly in montane to alpine habitats.

*Kunstdamaeus granulatus* (Willmann, 1951)

**South Tyrol:** Mountains around Brenner Pass: cushion plants, limestone phyllit scree (2100–2775 m) [3, sub *Belba granulata*, 12, 13, sub *Damaeus granulatus*].

**General distribution:** Italian Alps: BZ (Mountains around Brenner Pass); Austria; Switzerland(?); Alps (endemic). In alpine habitats.

*Kunstdamaeus tecticola* (Michael, 1888)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog [34, 35]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18, sub *Damaeus (Spatiodamaeus) tecticola*]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Touristensteig—mountain pine shrubs; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Europe; rare.

*Metabelba denscanis* Mourek, Miko & Bernini, 2011

**South Tyrol:** Mountains around Brenner Pass: alpine grassland (2265 m) [3, sub *Belba montana*, 12, 13, sub *Subbelba montana*]. Bozen (coll. Mihelčič, Innsbruck, sub *Metabelba montana*].

**General distribution:** Italian Alps: BZ (Mountains around Brenner Pass); Central Europe.

**Remark:** synonym: “*Subbelba montana*” sensu Schmölzer (1962, 1994) [3, 12], Schmölzer & Hellrigl (1996) [13] nec Kulczynski (teste Mourek in coll. Mihelčič—Mourek *et al.* 2011).

*Metabelba papillipes* (Nicolet, 1855)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: subalpine meadow; montane forest; bog Gisser Au [31]. Burgstall / Postal: embankment with shrubs and riparian forest at river Etsch / Adige [16]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Tiers / Tires: burnt forest site; deciduous and pine forest [21]; subalpine forest [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; subalpine limestone rocks [29]. Bolzano / Bozen: riparian

forest on Talfer / Talvera; Vadena / Pfatten: riparian forest at river Etsch / Adige; Kurtinig / Cortina sulla Strada del Vino: ruderal area with shrubs on embankment of river Etsch / Adige [16]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BS BZ TN; northern Italy; Austria; Holarctic, New Zealand.

*Metabelba propexa* (Kulczynski, 1902)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Dolomites—Schlern / Sciliar area: Plattkofel—montane pine forest [20]; Tiers / Tires: larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Europe, Caucasus; rare.

*Metabelba pulverosa* Strenzke, 1953

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland, cushion plants (2265–2800 m) [3, 12, 13, sub *Belba pulverulenta*]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: bog Gisser Au [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Völser Weiher—pine forest with springs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21].

**General distribution:** Italian Alps: BZ TN (*M. cf. pulverulenta*); northern, southern Italy (sub *M. pulverulenta*); Austria; Switzerland; Holarctic.

**Remark:** synonym: "*Metabelba pulverulenta*" sensu auct. nec Koch.

*Metabelba singularis* Mihelčič, 1964

**South Tyrol:** Etsch / Adige valley: in litter on hill southeast of Bolzano / Bozen [4, 13].

**General distribution:** Italian Alps: BZ (locus typicus); Austria (East Tyrol); Alps (endemic).

**Remark:** possibly synonym of *Metabelba parapulverosa* Moritz, 1966 (J. Mourek, pers. comm.)

*Porobelba spinosa* (Sellnick, 1920)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Palearctic.

*Spatiodamaeus fagei* Bulanova-Zachvatkina, 1957

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [35]. Sarntal / Val Sarentino: montane forest [31].

**General distribution:** Italian Alps: BZ; Austria (Carinthia, unpublished record); southern Palearctic; rare.

*Spatiodamaeus verticillipes* (Nicolet, 1855)

**South Tyrol:** Reschen / Resia: subalpine pasture [22]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: montane forest; bark on trees, lichens [28]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17, 32, sub *Damaeus clavipes*]; Bad Ratzes—montane forests; montane forest along brook; Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers [21]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Holarctic.

## Fam. Compactozetidae

*Cepheus cepheiformis* (Nicolet, 1855)

**South Tyrol:** Reschen / Resia: subalpine pasture [22]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; around cold air cave [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; St. Konstantin—dry grassland; bog [17]. Karneid / Cornedo all’Isarco: bog [23]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ TN [“Veneto”]; northern, southern Italy; Austria; Switzerland; Holarctic, Oriental.

*Cepheus dentatus* (Michael, 1888)

**South Tyrol:** Matscher Tal / Val di Mazia: montane forest [35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: montane forest [31]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Palaearctic.

*Cepheus grandis* Sitnikova, 1975

**South Tyrol:** Burgstall / Postal: riparian forest at river Etsch / Adige [16].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Central, South, Southeast Europe; rare.

**Remark:** possibly a variety of *Cepheus dentatus* (Michael, 1888) according to Weigmann (2006); considered as synonym of *C. dentatus* according to Subías (2004, 2018).

*Cepheus latus* C.L. Koch, 1835

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; montane forest; montane pine forest [34, 35]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; Völser Weiher—pine forest with springs; Hoferalpl—pine forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers [21]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Holarctic; Oriental.

*Cepheus tuberculosus* Strenzke, 1951

**South Tyrol:** Reschen / Resia: subalpine larch forest and pasture [22]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21].

**General distribution:** Italian Alps: BZ; southern Italy, Sardinia; Austria; Mediterranean, western Palaearctic.

*Conoppia palmicincta* (Michael, 1880)

**South Tyrol:** Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Tisens / Tesimo: marsh forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—scree slope [20]. Karneid / Cornedo all’Isarco: bog [23]. Jenesien / San Genesio Atesino: marshy slope [23]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: embankment of drainage ditch [23]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13, sub *C. microptera*]

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic to semicosmopolitan.

**Remark:** synonym: *Conoppia microptera* (Berlese, 1885).

*Ommatocepheus ocellatus* (Michael, 1882)

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forests [21].

**General distribution:** Italian Alps: BZ TN; Austria (Styria, unpublished record); Switzerland; southern Italy,

Sicily; southern Palaearctic; rare.

*Tritegeus bisulcatus* Grandjean, 1953

**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Ridnauntal / Val Ridanna: montane forest; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: montane forest [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpe—pine forest, mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: montane wet meadow; subalpine forest [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Karneid / Cornedo all’Isarco: bog [23]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: montane spruce forest; bogs [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; southwestern Palaearctic.

### Fam. Microzetidae

*Microzetes petrocoriensis* (Grandjean, 1936)

**South Tyrol:** Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: Klausen BZ; southern Italy (cf. *M. petrocoriensis*); Austria; Central, South Europe.

*Microzetes septentrionalis* (Kunst, 1963)

**South Tyrol:** Klausen / Chiusa—Säben: leaf litter under chestnuts, downy oaks trees, shrubs (leg. R. Schuster) [6, sub *Nellacarus septentrionalis*].

**General distribution:** Italian Alps: BZ; Austria; Central, South Europe.

### Fam. Amerobelbidae

*Amerobelba decedens* Berlese, 1908

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sardinia; Austria; southern Palaearctic.

### Fam. Caleremaeidae

*Caleremaeus monilipes* (Michael, 1882)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland (2050–2265 m) [3, 12, 13, also on Austrian side of the border]. Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: fertilized meadows; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest; scree slope [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpe—pine forest, mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: larch forest pasture, dry grassland [21]; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Montan / Montagna: Castelfeder—mixed

deciduous forest [27]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ SO TN; northern, southern Italy, Sardinia; Austria; Switzerland; western Palaearctic, Central America.

*Caleremaeus* sp.

**South Tyrol:** Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**Remark:** see comment in Höpferger & Schatz (2013).

### Fam. Ctenobelbidae

*Ctenobelba pectinigera* (Berlese, 1910)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dry grassland [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; Hoferalpl—pine forest, mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—scree slope [20]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Bolzano / Bozen: riparian forest at mouth of Talfer / Talvera [16].

**General distribution:** Italian Alps: BG (locus typicus) BS BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; southwestern Palaearctic.

### Fam. Damaeolidae

*Damaeolus asperatus* (Berlese, 1904)

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Klausen / Chiusa—Säben: leaf litter under chestnut and downy oak trees, shrubs [6]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; southern Palaearctic, Holarctic.

*Fosseremus laciniatus* (Berlese, 1905)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Sarntal / Val Sarentino: subalpine meadow [31]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland [17]; Hoferalpl—mountain pine shrubs [21]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29]. Neumarkt / Egna: riparian forest at the mouth of Trudner Bach / Rio Trodena [16]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; semicosmopolitan.

### Fam. Eremulidae

*Eremulus flagellifer* Berlese, 1908

**South Tyrol:** Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; southern Palaearctic, semicosmopolitan.

### Fam. Hungarobelbidae



*Hungarobelba visnyai* (Balogh, 1938)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests [21].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; southern Palaearctic.

### Fam. Eremaeidae

*Eremaeus hepaticus* C.L. Koch, 1835

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest [34, 35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs [21]; Tiers / Tires: larch forest pasture, dry grassland [21]. Jenesien / San Genesio Atesino: wet meadow [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BG BL BS BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Eueremaes oblongus* (C.L. Koch, 1836)

**South Tyrol:** Mountains around Brenner Pass: alpine grassland, moss, cushion plants (2265–2500 m) [3, 12, 13, sub *Eremaeus oblongus*]. Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: subalpine meadow [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Touristensteig—grassy dwarf shrub heath with cushion plants on cliff Schlernplateau—alpine pasture [21]; Plattkofel—montane pine forest [20]. surroundings of Bolzano / Bozen: in meridional environment [2, 13, sub *Eremaeus intermedius*, 5]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29]. Kaltern / Caldaro: near Kalterer See [2, 13, sub *Eremaeus intermedius*, 5]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BL BS BZ SO TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic, Oriental.

**Remark:** synonym: *Eueremaes intermedius* (Mihelčič, 1955).

*Eueremaes silvestris* (Forsslund, 1956)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; montane forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Ridnauntal / Val Ridanna: montane forest; bark on trees, lichens [28]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; mountain pine shrubs [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: brookside Angelbach; subalpine dry grassland [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Holarctic.

*Eueremaes valkanovi* (Kunst, 1957)

**South Tyrol:** Southern Zillertal Alps (1850–2800 m) [7, 8, 13]. Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; rocky steppe; bark on trees, lichens [28]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; scree slope; around cold air cave [24]. Pustertal / Val Pusteria, between Toblach / Dobbiacco and Bruneck / Brunico: in needle litter and moss; surroundings of Lana and Meran / Merano: in meridional environment [2, 5, 13]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic

rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; montane pine forest; scree slope; subalpine meadow [20, also sub *Kartoeremaeus* cf. *areolatus*]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27]. Fennberg / Favogna: waterside with reeds [23]. St. Felix / San Felice: montane spruce forest; larch forest pasture [30].

**General distribution:** Italian Alps: BZ; northern Italy, Sicily?; Austria; southern Palaearctic.

*Tricheremaeus abnobensis* Weigmann & Miko, 2006

**South Tyrol:** Dolomites—Schlern / Sciliar area: Schlernplateau—subalpine grassland on volcanic rock layers [21].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Central Europe. Mainly in montane to alpine habitats.

*Tricheremaeus travei* Miko, 1993

**South Tyrol:** Reschen / Resia: subalpine larch forest [22, 30].

**General distribution:** Italian Alps: BZ; Central Europe.

**Remark:** Morphological features of this species and distribution of all *Tricheremaeus* species see Schatz (2009)

## Fam. Niphocephidae

*Niphocephus nivalis* (Schweizer, 1922)

**South Tyrol:** Mountains around Brenner Pass: snow combs, cushion plants (2100–2700 m) [3, 12, 13]. Southern Zillertal Alps (2000–3200 m) [7, 8, 13]. Matscher Tal / Val di Mazia: montane pine forest [34]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Palaearctic. Mainly in alpine habitats.

## Fam. Zetorchestidae

*Microzetorchestes emeryi* (Coggi, 1898)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: subalpine meadow [25]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; southern Palaearctic.

*Zetorchestes falzonii* Coggi, 1898

**South Tyrol:** Pustertal / Val Pusteria, between Toblach / Dobbiacco and Bruneck / Brunico, in needle litter and moss; surrounding of Brixen / Bressanone; Bolzano / Bozen: in meridional environment [2, 13, sub *Z. micronychus*]. Dolomites—Schlern / Sciliar area: Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. Bolzano / Bozen: riparian and hillside forest near mouth of river Eisack / Isarco [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [10, 27]. Fennberg / Favogna: beech mixed deciduous forest [11, 23]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13, sub *Z. micronychus*]

**General distribution:** Italian Alps: BG BS BL BZ TN TS UD [“Veneto”]; northern, southern Italy, Sardinia; Austria; Switzerland(?); southern Palaearctic.

**Remark:** synonym: “*Zetorchestes micronychus*” (Berlese, 1883) nomen dubium according to Krisper (1984).

*Zetorchestes flabrarius* Grandjean, 1951

**South Tyrol:** Münstertal / Val Monastero: downy oaks on scree slope [26]. Urtijëi / St. Ulrich / Ortisei [11]. Klausen / Chiusa—Säben: leaf litter under chestnut and downy oak trees, shrubs [9]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; Hoferalpe—pine forest, Schlernplateau—mountain pine shrubs; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16]. Fennberg / Favogna: deciduous forest [11].

**General distribution:** Italian Alps: BS BZ; northern Italy; Austria; Switzerland; Central, South Europe, Caucasus, Mediterranean.

## Fam. Astegistidae

*Astegistes pilosus* (C.L. Koch, 1841)

**South Tyrol:** Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18].

**General distribution:** Italian Alps: BZ; Austria; Palearctic.

*Cultroribula bicultrata* (Berlese, 1905)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic, Oriental (Java).

*Cultroribula juncta* (Michael, 1885)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21]; Tiers / Tires: larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Holarctic.

*Cultroribula lata* Aoki, 1961

**South Tyrol:** Montan / Montagna: Castelfeder—dry grassland [27].

**General distribution:** Italian Alps: BZ; Austria; Palearctic, Oriental, Australia, New Zealand.

**Remark:** possibly confused with other *Cultroribula* species, presumably more frequent in the Alps.

*Furcoribula furcillata* (Nordenskjöld, 1901)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Tiers / Tires: burnt forest site, deciduous and pine forest [21].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic, Ethiopian.

## Fam. Gustaviidae

*Gustavia microcephala* (Nicolet, 1855)

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; Völser Weiher—pine forest with springs, marsh with willows and reeds [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; montane wet meadow [19]. Neumarkt / Egna: riparian forest at the mouth of Trudner Bach / Rio Trodena [16]. Montan / Montagna: Castelfeder—bog [27].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy; Austria; Switzerland; Palearctic, Central America.

## Fam. Liacaridae

*Adoristes ovatus* (C.L. Koch, 1839)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane

forest; rocky steppe; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; around cold air cave; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; St. Konstantin—dry grassland; bog [17]; Hoferalpl—pine forest; mountain pine shrubs [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; lower montane forest; montane wet meadow; brookside Angelbach [19]. Karneid / Cornedo all’Isarco: bog [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. St. Felix / San Felice: montane spruce forest; larch forest pasture [30].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic.

*Dorycranosus curtispilis* (Willmann, 1935)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Plattkofel—montane pine forest [20].

**General distribution:** Italian Alps: BZ; Austria; Central, South, Southeast Europe, Makaronesia.

*Liacarus coracinus* (C.L. Koch, 1841)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland (1900–2450 m) [3, 12, 13, also on Austrian side of the border]. Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest; around cold air cave; wet meadow [24]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs [21]; St. Konstantin—dry grassland; bog [17]; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff [21]; Plattkofel—montane pine forest; scree slope [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: lower montane forest; montane wet meadow; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29]; *Rhododendretum* [29, sub *L. oribatelloides*]. Karneid / Cornedo all’Isarco: bog [23]. Bolzano / Bozen: embankment with willow at river Etsch / Adige [16]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. Montan / Montagna: Castelfeder—mixed deciduous forest; bog [27]. Fennberg / Favogna: beech mixed deciduous forest [unpubl.]. St. Felix / San Felice: larch forest pasture [30]. Altrei / Anterivo: Langes Moos / Palù Longa—bog [unpubl.].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic.

**Remark:** *Liacarus oribatelloides* Winkler, 1956 is considered as a variety of *Liacarus coracinus* (C.L. Koch, 1841) according to Weigmann (2006) and Subías (2017, 2018).

*Liacarus janetscheki* Mihelčič, 1957

**South Tyrol:** Mountains around Brenner Pass: alpine grassland (2350 m) [12, 13].

**General distribution:** Italian Alps: BZ; Austria (North Tyrol—locus typicus); Alps (endemic). In alpine habitats.

*Liacarus nitens* (Gervais, 1844)

**South Tyrol:** Vintl / Vandoies: in spring [14]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18].

**General distribution:** Italian Alps: BZ GO TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Liacarus xylariae* (Schränk, 1803)

**South Tyrol:** Jenesien, meadow with purple moor grass [unpubl.]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Palearctic.

*Xenillus athesis* Schatz, 2004

**South Tyrol:** Bolzano / Bozen: riparian and hillside forest near mouth of river Eisack / Isarco [16, type locality]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ (locus typicus).

**Remarks:** Original description: Schatz (2004). Morphology, cuticular structures: Schatz *et al.* (2006).

*Xenillus clypeator* Robineau-Desvoidy, 1839

**South Tyrol:** Burgstall / Postal: riparian forest at river Etsch / Adige; Bolzano / Bozen: riparian and hillside forest near mouth of river Eisack / Isarco [16]. Eppan / Appiano: Grafenon—reed [unpubl.]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: poplar riparian forest along river Etsch / Adige [16].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; southern Palaearctic, Holarctic.

*Xenillus discrepans* Grandjean, 1936

**South Tyrol:** Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: ruderal area and poplar riparian forest on embankment of river Etsch / Adige [16].

**General distribution:** Italian Alps: BZ TN; southern Italy; Austria; Switzerland; southern Palaearctic.

*Xenillus salamoni* Mahunka, 1996

**South Tyrol:** Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26].

**General distribution:** Italian Alps: BZ; Austria; Central Europe, Caucasus.

*Xenillus tegeocranus* (Hermann, 1804)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants, snow combs (2775 m) [3, 12, 13, also on Austrian side of the border]. Matscher Tal / Val di Mazia: larch forest pasture; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Lana: embankment with shrubs; Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; waterside with reeds; mountain pine shrubs [21]; St. Konstantin—dry grassland [17]; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest; scree slope [20]; Tiers / Tires: montane wet meadow; subalpine dry grassland [19]. Karneid / Cornedo all'Isarco: bog [23]. Jenesien / San Genesio Atesino: wet meadow [23]. Bolzano / Bozen: riparian forest on Talfer / Talvera; riparian and hillside forest near mouth of river Eisack / Isarco [16]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—bog (also sub *X. cf. tegeocranus*, differences in range of morphological variety) [27]. Neumarkt / Egna: riparian forest along river Etsch / Adige and the mouth of Trudner Bach / Rio Trodena [16]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BL BS BZ TN VI [“Veneto”]; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic; Oriental.

## Fam. Peloppiidae

*Ceratoppia bipilis* (Hermann, 1804)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland, cushion plants, limestone phyllit scree, scree slope, snow combs, springs and moorland (1900–2800 m) [3, 12, 13]. Southern Zillertal Alps (1850–2800 m) [7, 8, 13]. Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; bark on trees, lichens [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck



/ Brunico: riparian forest; spruce forest; scree slope [24]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; montane pine forest [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: larch forest pasture, dry grassland; lower montane forest; subalpine forest; subalpine meadow [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; subalpine limestone rocks [29]. Bolzano / Bozen: riparian forest at mouth of river Eisack / Isarco [16]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BL BG BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic, Central America.

*Ceratoppia quadridentata* (Haller, 1882)

**South Tyrol:** Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs [21]; St. Konstantin—dry grassland; bog [17]; Plattkofel—scree slope [20]; Tiers / Tires: subalpine forest [19]. Bolzano / Bozen: riparian and hillside forest near mouth of river Eisack / Isarco [16]. Fennberg / Favogna: beech mixed deciduous forest [unpubl.]. St. Felix / San Felice: montane spruce forest [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Ceratoppia sexpilosa* Willmann, 1938

**South Tyrol:** Karneid / Cornedo all'Isarco: bog [23].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic.

## Fam. Tenuialidae

*Hafenrefferia gilvipes* (C.L. Koch, 1839)

**South Tyrol:** Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Neumarkt / Egna: ruderal area on embankment of river Etsch / Adige; poplar riparian forest [16].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Palearctic; rare.

## Fam. Carabodidae

*Carabodes areolatus* Berlese, 1916

**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: larch forest pasture; montane pine forest [34]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest [21]; Plattkofel—montane pine forest [20]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29].

**General distribution:** Italian Alps: BZ TN (locus typicus); northern, southern Italy; Austria; Switzerland; Holarctic.

*Carabodes coriaceus* C.L. Koch, 1835

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2775 m) [3, 12, 13]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs [21]; St. Konstantin—dry grassland; bog [17]. Bolzano / Bozen: riparian forest at Talfer / Talvera below Runkelstein castle [16]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BL BZ CO TN; northern Italy; Austria; Switzerland; Holarctic.

*Carabodes hungaricus* Balogh, 1943

**South Tyrol:** Tisens / Tesimo: marsh forest [23]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ; Central, South, Southeast Europe; East Africa.

*Carabodes labyrinthicus* (Michael, 1879)

**South Tyrol:** Southern Zillertal Alps (2500–2800 m) [7, 8, 12]. Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; bark on trees, lichens; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Vintl / Vandoies: in spring [14]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; scree slope; around cold air cave [24]. Lüssen / Luson: in ant nest [15]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forest; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; waterside with reeds; Hoferalpl—pine forest; mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; lower montane forest; montane wet meadow; subalpine forest; subalpine meadow; brookside Angelbach; subalpine dry grassland [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; subalpine limestone rocks [29]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: embankment of drainage ditch; Kleiner Montiggler See—marsh forest [23]. Neumarkt / Egna: ruderal area with shrubs on embankment of river Etsch / Adige [16]. St. Felix / San Felice: montane spruce forest; bogs; larch forest pasture [30]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BG BZ SO TN; southern Italy; Austria; Switzerland; Holarctic, Mexico.

*Carabodes marginatus* (Michael, 1884)

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Sarntal / Val Sarentino: montane forest [31]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope [24]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21].

**General distribution:** Italian Alps: BL BZ SO TN; northern, southern Italy, Sicily?, Sardinia; Austria; Switzerland; Palaearctic.

*Carabodes ornatus* Štorkán, 1925

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34]. Ridnauntal / Val Ridanna: dwarf shrub heath; rocky steppe [28]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forest; Völser Weiher—pine forest with springs; marsh with willows; Hauenstein—dry spruce forest; Hoferalpl—pine forest, mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; brookside Angelbach [19]. Eppan / Appiano: Grafenon—reed [unpubl.]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. St. Felix / San Felice: montane spruce forest; larch forest pasture [30].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; Palaearctic.

*Carabodes reticulatus* Berlese, 1913

**South Tyrol:** Eppan / Appiano: Kleiner Montiggler See—marsh forest [23].

**General distribution:** Italian Alps: BZ TN (locus typicus); northern, southern Italy; Austria; Switzerland; western Palaearctic.

*Carabodes rugosior* (Berlese, 1916)

**South Tyrol:** Reschen / Resia: subalpine larch forest and pasture [22]. Ridnauntal / Val Ridanna: dwarf shrub

heath; rocky steppe; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: montane forest [31]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Hoferalpl—pine forest; mountain pine shrubs [21]; Tiers / Tires: subalpine forest [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Eppan / Appiano: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ TN (locus typicus); northern, southern Italy; Austria; Switzerland; Holarctic.

*Carabodes schatzi* Bernini, 1976

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants, limestone phyllit scree (2100–2775 m) [3, 12, 13, sub *C. minusculus*, probably *C. schatzi*(?), also on Austrian side of the border]. Reschen / Resia: subalpine pasture [22]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; rocky steppe [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest [24]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Jenesien / San Genesio Atesino: wet meadow [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ SO; northern Italy; Austria (North Tyrol—locus typicus); Switzerland; Alps (endemic). Mainly in montane to alpine habitats.

**Remark:** Regarding their ecology and high alpine distribution the specimens from the mountains around Brenner Pass [3, 12] are placed sub *C. schatzi*. The original material was not available for examination.

*Carabodes subarcticus* Trägårdh, 1902

**South Tyrol:** Dolomites—Schlern / Sciliar area: Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture [21].

**General distribution:** Italian Alps: BZ; northern Palaearctic, “arctoalpine”; mainly in montane to alpine habitats.

**Remark:** This species is mainly known from northern Europe and Siberia. The findings in “southern” countries are mostly restricted to mountainous areas; probably it concerns a relict from the glacial period.

*Carabodes tenuis* Forsslund, 1953

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook [21].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; Palaearctic.

*Odontocephus elongatus* (Michael, 1879)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Sarntal / Val Sarentino: subalpine meadow [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

## Fam. Autognetidae

*Autogneta longilamellata* (Michael, 1885)

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Holarctic.

*Conchogneta dalecarlica* (Forsslund, 1947)

**South Tyrol:** Sarntal / Val Sarentino: montane forest [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian

forest; wet meadow [24].

**General distribution:** Italian Alps: BZ; Austria; Palearctic.

## Fam. Oppiidae

*Berniniella bicarinata* (Paoli, 1908)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: dry grassland [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: sedimentation zone at pond [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Hoferalpl—pine forest; mountain pine shrubs; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29].

**General distribution:** Italian Alps: BG BL BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Palearctic; Oriental.

*Berniniella conjuncta* (Strenzke, 1951)

**South Tyrol:** Reschen / Resia: subalpine pasture [22]. Matscher Tal / Val di Mazia: larch forest pasture; montane forest [35]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Dolomites—Schlern / Sciliar area: Tiers / Tires: subalpine forest [19]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Europe, Caucasus.

*Berniniella hauseri* (Mahunka, 1974)

**South Tyrol:** Matscher Tal / Val di Mazia: bog [35]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; Sardinia; Switzerland; western Palearctic; rare.

**Remark:** synonym of *Berniniella serratiostris* (Golosova, 1970) according to Arroyo *et al.* (2017)

*Berniniella sigma* (Strenzke, 1951)

**South Tyrol:** Wengen—Armentara; *Rhododendretum* [unpubl.].

**General distribution:** Italian Alps: BZ; Austria; Palearctic.

*Dissorhina ornata* (Oudemans, 1900)

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2280–2775 m) [3, sub *Oppia ornata*, 12, 13, sub *Oppiella ornata*, also on Austrian side of the border]. Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Hoferalpl—pine forest; mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest; scree slope [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; lower montane forest; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BG BL BZ TN; northern, southern Italy, Sicily; Austria; Switzerland;

Holarctic.

*Dissorhina signata* (Schwalbe, 1989)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; montane forest [35]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: montane forest [31]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Central, Southeast Europe, Caucasus.

*Microppia minus* (Paoli, 1908)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [35]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17]; Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: subalpine dry grassland [19]. Bolzano / Bozen: riparian forest at mouth of Talfer / Talvera [16]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; cosmopolitan.

*Multioppia glabra* (Mihelčič, 1955)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: montane forest [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. Bolzano / Bozen: riparian forest along river Talfer / Talvera [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [27, part. sub *Ramusella insculpta*]. Neumarkt / Egna: riparian forest along river Etsch / Adige [16]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BZ; Austria; southern Palearctic.

*Neotrichoppia confinis* (Paoli, 1908) [*Neotrichoppia (Confinoppia)*]

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [35]. Ridnauntal / Val Ridanna: dwarf shrub heath [28].

**General distribution:** Italian Alps: BG (locus typicus) BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Central, South Europe, Mediterranean.

*Oppia denticulata* (Canestrini & Canestrini, 1882)

**South Tyrol:** Tisens / Tesimo: marsh forest [unpubl.]. Jenesien / San Genesio Atesino: marshy slope [23]. Neumarkt / Egna: embankment of drainage ditch [unpubl.]. St. Felix / San Felice: bog and sedimentation zone at Felixer Weiher / Lago di Tret [23].

**General distribution:** Italian Alps: BZ CO TV; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; southern Holarctic, Neotropical; rare.

*Oppia nitens* C.L. Koch, 1836

**South Tyrol:** Mountains around Brenner Pass: alpine grassland (2350 m) [3, 12, 13]. Reschen / Resia: subalpine larch forest [22]. Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Bolzano / Bozen: embankment with willow at river Etsch / Adige near Sigmundskron; riparian forests along river Talfer / Talvera and at mouth of river Eisack / Isarco; Vadena / Pfatten: riparian forest at river Etsch / Adige [16]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: riparian forest at the mouth of Trudner Bach / Rio Trodena [16]. Montan / Montagna: Castelfeder—mixed deciduous forest; bog [27].



**General distribution:** Italian Alps: BS BZ; northern Italy; Austria; Switzerland; Holarctic.

*Oppiella falcata* (Paoli, 1908) [*Oppiella* (*Oppiella*)]

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: subalpine forest [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; subalpine limestone rocks [29].

**General distribution:** Italian Alps: BG BL BZ TN; northern Italy (sub *Lauroppia falcata*); Austria; Switzerland; Palaearctic.

*Oppiella fallax* (Paoli, 1908) [*Oppiella* (*Rhinoppia*)]

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs; Schlernplateau—alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; lower montane forest; subalpine forest [19]. Neumarkt / Egna: embankment of drainage ditch [23]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sicily (sub *Lauroppia fallax*); Austria; Switzerland; semicosmopolitan.

*Oppiella keilbachi* (Moritz, 1969) [*Oppiella* (*Moritzoppia*)]

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: montane forest; dry grassland [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Touristensteig—mountain pine shrubs; Tierser Alpl—scree with cushion plants; Schlernplateau—bogs in alpine grassland; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Palaearctic, Ethiopian, Neotropical.

*Oppiella maritima* (Willmann, 1929) [*Oppiella* (*Oppiella*)]

**South Tyrol:** Reschen / Resia: subalpine pasture [22]. Matscher Tal / Val di Mazia: montane forest [35].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic.

*Oppiella nova* (Oudemans, 1902) [*Oppiella* (*Oppiella*)]

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland, cushion plants, limestone phyllit scree (2100–2700 m) [3, sub *Oppia neerlandica*, 12, 13, sub *O. neerlandica*, also on Austrian side of the border]. Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; dry grassland [28]. Sarntal / Val Sarentino: montane forest; bog Gisser Au [31]. Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs, waterside with reeds [21]; St. Konstantin—dry grassland; bog [17]; Hoferalpl—pine forest; Saltner-Schwaige—hay meadow, dry

grassland, marshy slope; mountain pine shrubs; Tierser Alpl—scree with cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland; montane wet meadow; subalpine forest [21]. Bolzano / Bozen: riparian forest at mouth of Talfer / Talvera [16]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; mixed deciduous forest; bog [27]. Neumarkt / Egna: riparian forest at the mouth of Trudner Bach / Rio Trodena; ruderal area with shrubs on embankment of river Etsch / Adige [16]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BG BL BS BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; cosmopolitan.

**Remark:** synonym: "*Damaeosoma neerlandicum*" sensu Sellnick (1928), Willmann (1931) nec Oudemans.

*Oppiella obsoleta* (Paoli, 1908) [*Oppiella (Rhinoppia)*]

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine pasture [22]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest [21]; Tiers / Tires: lower montane forest; brookside Angelbach [19]. Montan / Montagna: Castelfeder—mixed deciduous forest [27, sub *Rhinoppia obsoleta*].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sardinia (sub *Medioppia obsoleta*); Austria; Switzerland; Holarctic, New Zealand, Hawaii.

**Remark:** The citation in Schmölzer & Hellrigl (1996) [13] is marked as "possible record" in South Tyrol. It refers to a record of Mihelčič (1963) in Austria, East Tyrol.

*Oppiella propinqua* Mahunka & Mahunka-Papp, 2000 [*Oppiella (Oppiella)*]

**South Tyrol:** Tisens / Tesimo: marsh forest [23]. Villnöß / Funes: marshy area in spruce forest [23]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Central Europe.

*Oppiella splendens* (C.L. Koch, 1841) [*Oppiella (Oppiella)*]

**South Tyrol:** Reschen / Resia: subalpine pasture [22].

**General distribution:** Italian Alps: BL BZ BG; northern Italy; Austria; Switzerland; Holarctic.

*Oppiella subpectinata* (Oudemans, 1900) [*Oppiella (Rhinoppia)*]

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine larch forest [22]. Matscher Tal / Val di Mazia: larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: montane forest [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forest; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; waterside with reeds; Hoferalpl—pine forest; mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland; subalpine forest; brookside Angelbach [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: bog and sedimentation zone at Felixer Weiher / Lago di Tret [23].

**General distribution:** Italian Alps: BS BZ; northern, southern Italy (sub *Medioppia subpectinata*); Austria; Switzerland; Holarctic, West Africa.

*Oppiella uliginosa* (Willmann, 1919) [*Oppiella (Oppiella)*]

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; fertilized meadows; larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum*

*viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpl—pine forest; mountain pine shrubs; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; wet meadow, *Nardetum* [29]. Villnöß / Funes: marshy area in spruce forest [23]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: embankment of drainage ditch; Kleiner Montiggler See—marsh forest [23]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; Austria; Central Europe.

*Oppiella unicarinata* (Paoli, 1908) [*Oppiella* (*Moritzoppia*)]

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2775 m) [3, 12, 13, sub *Oppia unicarinata*]. Matscher Tal / Val di Mazia: bog; montane forest [35]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; subalpine forest [19, sub *Moritzoppia unicarinata*]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BG BZ; northern, southern Italy, Sicily, Sardinia (sub *Moritzoppia unicarinata*); Austria; Switzerland; Holarctic, Central America.

*Oppiella* sp.

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants, limestone phyllit scree, snow combs (1900–2100 m) [3, sub *Oppia* spp., 12, 13)

*Oxyoppia europaea* Mahunka, 1982

**South Tyrol:** Matscher Tal / Val di Mazia: montane forest [35]. Ridnauntal / Val Ridanna: dwarf shrub heath [28, 32, sub *Graptoppia foveolata*]. Montan / Montagna: Castelfeder—cushion plants; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; Central, Southeast Europe.

*Ramusella clavipectinata* (Michael, 1885) [*Ramusella* (*Ramusella*)]

**South Tyrol:** Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BG BZ TN TV; northern, southern Italy; Austria; semicosmopolitan.

*Ramusella elliptica* (Berlese, 1908) [*Ramusella* (*Insculptoppia*)]

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22, sub *Ramusella mihelcici*].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily?; Austria; southern Palaearctic, Holarctic, Central America, Oriental.

*Ramusella furcata* (Willmann, 1928) [*Ramusella* (*Insculptoppia*)]

**South Tyrol:** Ridnauntal / Val Ridanna: dry grassland [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—mixed deciduous forest; bog [27]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Europe, Caucasus, Palaearctic?

*Ramusella insculpta* (Paoli, 1908) [*Ramusella* (*Insculptoppia*)]

**South Tyrol:** Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Montan / Montagna: Castelfeder—mixed deciduous forest [27, part. sub *Multioppia glabra*].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland;

southern Palaearctic, Oriental.

*Subiasella quadrimaculata* (Evans, 1952)

**South Tyrol:** Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Palaearctic.

## Fam. Quadropiidae

*Coronoquadropia monstrosa* (Hammer, 1979)

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25, also sub *C. parallela*]. Sarntal / Val Sarentino: montane forest [31]. Tisens / Tesimo: marsh forest [23, sub *C. parallela*]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24, both sites also sub *C. gumista*]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; Hoferalpl—pine forest; mountain pine shrubs [21, sub *C. gumista* in Fischer *et al.* 2009]; Plattkofel—montane pine forest [20], Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Fennberg / Favogna: beech mixed deciduous forest [23, also sub *C. gumista*].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Central, South, West Europe, Oriental (Java), North America (North Carolina).

**Remark:** synonym: *Coronoquadropia gumista* (Gordeeva & Tarba, 1990) according to Weigmann & Schatz (2015).

*Quadropia hammerae* Minguez, Ruiz & Subías, 1985

**South Tyrol:** Matscher Tal / Val di Mazia: montane pine forest [34]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; mountain pine shrubs; subalpine grassland on volcanic rock layers [21]; Plattkofel—scree slope [20, 32, also sub *Qu. maritalis*]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29, 32, sub *Qu. maritalis*].

**General distribution:** Italian Alps: BZ; Austria; Palaearctic, Central America, New Zealand, Hawaii.

*Quadropia longisetosa* Minguez, Ruiz & Subías, 1985

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; montane forest [35]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—scree slope [20].

**General distribution:** Italian Alps: BZ; Switzerland; Central, South Europe, Makaronesia.

*Quadropia quadricarinata* (Michael, 1885)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: rocky steppe; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest; scree slope [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; mountain pine shrubs; Völser Weiher—marsh with willows and reeds; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl [21, also part. sub *Qu. galaica*]; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest [20, 32, also sub *Qu. galaica*]; Sella Pass—alpine grassland [33]; Tiers / Tires: subalpine forest; brookside Angelbach; montane wet meadow [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Karneid / Cornedo all'Isarco: bog [23, sub *Qu. galaica*]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Fennberg / Favogna: beech mixed



deciduous forest [23, sub *Qu. galaica*]. St. Felix / San Felice: larch forest pasture [30]; bog and sedimentation zone at Felixer Weiher / Lago di Tret [23].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; semicosmopolitan.

### Fam. Thyrisomidae

*Banksinoma lanceolata* (Michael, 1885)

**South Tyrol:** Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Switzerland; Holarctic, Hawaii.

*Oribella pectinata* (Michael, 1885)

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2775 m) [3, 12, 13].

**General distribution:** Italian Alps: BZ (Mountains around Brenner Pass); northern, southern Italy; Austria; Switzerland; Holarctic.

*Pantelozetes alpestris* (Willmann, 1929)

**South Tyrol:** Southern Zillertal Alps (2500–2800 m) [7, 8, 13, sub *Oribella alpestris*]. Matscher Tal / Val di Mazia: montane forest [35]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture [21]; Plattkofel—montane pine forest; scree slope [20]; Sella Pass—alpine grassland [33].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Holarctic. Mainly in alpine habitats.

*Pantelozetes paolii* (Oudemans, 1913)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine pasture [22]. Matscher Tal / Val di Mazia: larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs [21]; Plattkofel—alpine grassland [20]; Tiers / Tires: lower montane forest; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; wet meadow, *Nardetum*; subalpine meadow [29]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic, Oriental (Java).

### Fam. Suctobelbidae

*Allosuctobelba grandis* (Paoli, 1908)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Allosuctobelba ornithorhyncha* (Willmann, 1953)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest [21].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Alps (endemic).

*Suctobelba aliena* Moritz, 1970

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; bog [35]. Montan / Montagna: Castelfeder—mixed



deciduous forest [27].

**General distribution:** Italian Alps: BZ; [Sicily (cf.)]; southern Palaearctic; rare.

*Suctobelba altvateri* Moritz, 1970

**South Tyrol:** Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; scree slope [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; waterside with reeds; Hoferalpl—pine forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; subalpine limestone rocks [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; southern Palaearctic.

*Suctobelba regia* Moritz, 1970

**South Tyrol:** Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope [24].

**General distribution:** Italian Alps: BZ; [Sicily (cf.)]; Austria; Switzerland; southern Palaearctic.

*Suctobelba secta* Moritz, 1970

**South Tyrol:** Münstertal / Val Monastero: downy oaks on scree slope [26]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forest [21].

**General distribution:** Italian Alps: BZ; Austria; Europe.

*Suctobelba trigona* (Michael, 1888)

**South Tyrol:** Ridnauntal / Val Ridanna: montane forest; rocky steppe [28]. Burgstall / Postal: riparian forest along river Etsch / Adige [16]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: lower montane forest; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic, Greenland.

*Suctobelba* sp.

**South Tyrol:** Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs [21].

*Suctobelbata prelli* (Märkel & Meyer, 1958)

**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: larch forest pasture [34].

**General distribution:** Italian Alps: BZ; Austria; Central, South, Southeast Europe, Canada.

*Suctobelbella acutidens* (Forsslund, 1941)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine meadow; bog Gisser Au [31]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—waterside with reeds; Hoferalpl—pine forest; Saltner-

Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; montane wet meadow; subalpine forest; brookside Angelbach [19]. Kurtinig / Cortina sulla Strada del Vino: ruderal area on embankment of river Etsch / Adige [16].

**General distribution:** Italian Alps: BS BZ; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic, Neotropical.

*Suctobelbella acutidens* ssp. *lobata* (Strenzke, 1950)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; Austria; Europe, Caucasus.

*Suctobelbella arcana* Moritz, 1970

**South Tyrol:** Münstertal / Val Monastero: dry grassland [26, 32, part. sub *S. prominens*]; downy oaks on scree slope [26]. Dolomites—Schlern / Sciliar area: Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Montan / Montagna: Castelfeder—cushion plants; mixed deciduous forest [27]. Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Holarctic.

*Suctobelbella falcata* (Forsslund, 1941)

**South Tyrol:** Ridnauntal / Val Ridanna: dwarf shrub heath [28]; montane forest [28, sub *S. singularis*].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Palaearctic; New Zealand.

*Suctobelbella forsslundi* (Strenzke, 1950)

**South Tyrol:** Matscher Tal / Val di Mazia: bog; montane forest [35]. Sarntal / Val Sarentino: subalpine meadow; montane forest; bog Gisser Au [31]. Burgstall / Postal: riparian forest river Etsch / Adige [16]. Tisens / Tesimo: marsh forest [23, part. sub *S. falcata*]. Ahrntal / Valle Aurina near Bruneck / Brunico: wet meadow [24]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpl—mountain pine shrubs [21]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Palaearctic.

*Suctobelbella lobodentata* (Mihelčič, 1957)

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2775 m) [12, 13].

**General distribution:** Italian Alps: BZ (Mountains around Brenner Pass); Austria (North Tyrol—locus typicus); Central Europe (Alps, Bohemia). In montane to high alpine habitats.

**Remarks:** A *Suctobelbella* according to the figure in Mihelčič (1957). The record in Bohemia is possibly *Suctobelbella acutidens lobata* according to Miko (2016). For clarification a study of the types is necessary.

*Suctobelbella longirostris* (Forsslund, 1941)

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic.

*Suctobelbella nasalis* (Forsslund, 1941)

**South Tyrol:** Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Völser Weiher—pine forest with springs; Touristensteig—mountain pine shrubs; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Palaearctic; New Zealand.

*Suctobelbella palustris* (Forsslund, 1953)

**South Tyrol:** Reschen / Resia: marshy slope [22]. Matscher Tal / Val di Mazia: bog [35]. Münstertal / Val Monastero: dry grassland [26]. Ridnauntal / Val Ridanna: montane forest [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; waterside with reeds [21]; Plattkofel—wet meadow [20]; Tiers / Tires: montane wet meadow [19]. Jenesien / San Genesio Atesino: wet meadow [23]. St. Felix / San Felice: bogs [30, sub *S. singularis*].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic.

*Suctobelbella perforata* (Strenzke, 1950)

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: montane forest [28]. Tisens / Tesimo: marsh forest [23]. Karneid / Cornedo all'Isarco: bog [23]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Palaearctic.

*Suctobelbella sarekensis* (Forsslund, 1941)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25, 32, part. sub *S. hamata*]; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland; montane wet meadow; subalpine forest; brookside Angelbach [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29]. Karneid / Cornedo all'Isarco: bog [23]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—dry grassland; mixed deciduous forest [27]. St. Felix / San Felice: bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Holarctic.

**Remark:** “*Suctobelbella hamata*” sensu Schatz & Fischer (2011) [25] is considered as a variety of *S. sarekensis* nec Moritz.

*Suctobelbella similis* (Forsslund, 1941)

**South Tyrol:** Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest [21].

**General distribution:** Italian Alps: BZ; northern Italy, Sardinia; Austria; Switzerland; Palaearctic.

*Suctobelbella subcornigera* (Forsslund, 1941)

**South Tyrol:** Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; bog; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; scree slope; around cold air cave; wet meadow [24]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpl—pine forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with

cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—wet meadow [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; subalpine forest [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; wet meadow, *Nardetum*; subalpine limestone rocks [29]. Bolzano / Bozen: riparian forest along Talfer / Talvera [16]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: embankment of drainage ditch [23, part. sub *S. prominens*]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Palearctic, Oriental, New Zealand.

*Suctobelbella subtrigona* (Oudemans, 1900)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: larch forest pasture; montane forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; dry grassland [28]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; Hoferalpl—pine forest; mountain pine shrubs; Tierser Alpl—scree with cushion plants; [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. [Mountains around Brenner Pass, on Austrian side of the border, 3, sub *Suctobelba subtrigona*, 12, 13]

**General distribution:** Italian Alps: BZ; northern Italy; Austria; Switzerland; Holarctic, Oriental, Neotropical.

*Suctobelbella tuberculata* (Strenzke, 1950)

**South Tyrol:** Eppan / Appiano: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Palearctic.

*Suctobelbella* spp.

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, alpine grassland, limestone phyllit scree (2280-2350 m) [3, sub *Suctobelba* spp., 12, 13]

## Fam. Tectocephidae

*Lamellocephus personatus* (Berlese, 1910)

**South Tyrol:** Klausen / Chiusa—Säben: leaf litter under chestnut and downy oak trees, shrubs [6].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Central, South Europe, Caucasus.

*Tectocephus alatus* Berlese, 1913

**South Tyrol:** Pfelderer Tal / Val di Plan: subalpine meadow; montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ SO (locus typicus); northern, southern Italy, Sicily?; Austria; Switzerland; Palearctic.

*Tectocephus knullei* Vanek, 1960

**South Tyrol:** Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; marsh with willows and reeds [21]. Karneid / Cornedo all'Isarco: bog [23].

**General distribution:** Italian Alps: BZ; Austria; Palearctic.

*Tectocephus minor* Berlese, 1903

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [35]. Ridnauntal / Val Ridanna: dry



grassland [28]. Sarntal / Val Sarentino: montane forest [31]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; semicosmopolitan.

*Tectocephus sarekensis* (Trägårdh, 1910)

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2775 m) [3, 12, 13]. Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; fertilized meadows; larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: subalpine meadow; montane forest; bog; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; dry grassland; bog at “Aglboden”; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Burgstall / Postal: embankment with shrubs, dry meadow on embankment; riparian forest along river Etsch / Adige; [16]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; scree slope; around cold air cave [24]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; Hoferalpl—pine forest; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; montane pine forest; scree slope; subalpine meadow [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; lower montane forest, subalpine forest, subalpine meadow; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; wet meadow, *Nardetum*; subalpine meadow; subalpine limestone rocks [29]. Karneid / Cornedo all’Isarco: bog [23]. Bolzano / Bozen: riparian forest along river Talfer / Talvera [16]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27]. Kurtinig / Cortina sulla Strada del Vino: ruderal area on embankment of river Etsch / Adige [16]. Fennberg / Favogna: waterside with reeds [23]. St. Felix / San Felice: bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; semicosmopolitan.

*Tectocephus tenuis* Knülle, 1954

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [34, 35]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; Austria; Palaearctic.

*Tectocephus* cf. *tenuis*

**South Tyrol:** St. Felix / San Felice: bogs [30].

**Remark:** The specimens show almost all characters of *T. tenuis* Knülle, 1954, but the translamella is absent.

*Tectocephus velatus* (Michael, 1880)

**South Tyrol:** Mountains around Brenner Pass: alpine grassland, cushion plants, snow combs, springs and moorland (2100–2775 m) [3, 12, 13, also on Austrian side of the border]. Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [35]. Pfelderer Tal / Val di Plan: dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; waterside with reeds [21]; St. Konstantin—dry grassland; bog [17]; Hoferalpl—pine forest; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants



[21]; Plattkofel—wet meadow; montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; montane wet meadow; subalpine forest; brookside Angelbach; subalpine dry grassland [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; subalpine meadow [29]. Karneid / Cornedo all'Isarco: bog [23]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ SO TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; cosmopolitan.

*Tectocephus* sp.

**South Tyrol:** Matscher Tal / Val di Mazia: bog [35]. Sarntal / Val Sarentino: montane forest [31]. Dolomites—Schlern / Sciliar area: scree around summit Petz / M. Pez, cushion plants, cushion plants [21]; Plattkofel—scree slope [20]. St. Felix / San Felice: bogs [23].

**General distribution:** Italian Alps: BZ VR (Monte Baldo, unpubl. record); Austria (North Tyrol: Obergurgl, Fischer & Schatz 2013; Carinthia, unpublished record); Switzerland (Furkapass unpubl. record, Schatz); Alps (endemic).

**Remark:** A description is in preparation. According to the known findings this species seems restricted to alpine and high alpine habitats.

## Fam. Hydrozetidae

*Hydrozetes confervae* (Schränk, 1781)

**South Tyrol:** Villnöß / Funes: marshy area in spruce forest [23]. St. Felix / San Felice: bog and sedimentation zone at Felixer Weiher / Lago di Tret [23].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Hydrozetes lacustris* (Michael, 1882)

**South Tyrol:** Reschen / Resia: marshy slope [22]. Pfelderer Tal / Val di Plan: bog [25]. Ridnauntal / Val Ridanna: montane forest; pond “Hilbenlacke” (submerged habitat) [28].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Holarctic.

*Hydrozetes parisiensis* Grandjean, 1948

**South Tyrol:** Montan / Montagna: Castelfeder—around pond [27].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Palaearctic.

## Fam. Limnozetestidae

*Limnozetesta ciliatus* (Schränk, 1803)

**South Tyrol:** Reschen / Resia: marshy slope [22]. Pfelderer Tal / Val di Plan: bog [25]. Ridnauntal / Val Ridanna: bog at “Aglsboden”; pond “Hilbenlacke” (submerged habitat) [28]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Schlernplateau—bogs in alpine grassland [21]. La Val / Wengen / La Valle: Armentara—subalpine meadow [29]. St. Felix / San Felice: bogs [30].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Holarctic, Central America(?).

*Limnozetesta rugosus* (Sellnick, 1923)

**South Tyrol:** Ridnauntal / Val Ridanna: pond “Hilbenlacke” (submerged habitat) [28].

**General distribution:** Italian Alps: BZ; Austria; Palaearctic.

## Fam. Cymbaeremaeidae

*Cymbaeremaeus cymba* (Nicolet, 1855)

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2560 m) [12, 13]. Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: fertilized meadows; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: bark on trees, lichens; pond “Hilbenlacke” (submerged habitat) [28]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—marsh with willows and reeds; Hoferalpl—mountain pine shrubs [21]; Plattkofel—montane pine forest; scree slope [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic.

*Scapheremaeus reticulatus* (Berlese, 1910)

**South Tyrol:** Sarntal / Val Sarentino: subalpine meadow [31].

**General distribution:** Italian Alps: CN BZ; northern Italy (Piedmont), Sardinia; Austria; Central, South Europe.

**Remark:** Subías (2004, 2017) considered this species as synonym of *S. guerini* (Berlese, 1908). This synonymy is suspected and is apparently based on the hint of a wrong determination by Kunst (1961) in Mahunka *et al.* (2013). Both species, *S. reticulatus* and *S. guerini* differ in characteristic attributes (cf. Mahunka & Mahunka-Papp, 1995: pp 62/63 und figs 74/76). Based on the present study *Scapheremaeus reticulatus* is now listed as valid species in Subías (2018).

## Fam. Licneremaeidae

*Licneremaeus licnophorus* (Michael, 1882)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs [21]; Tiers / Tires: larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ TN; southern Italy, Sicily, Sardinia; Austria; southern Palaearctic, Holarctic, Central America(?).

## Fam. Micreremidae

*Micreremus brevipes* (Michael, 1888)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [unpubl.]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BS BZ TV [“Veneto”]; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Palaearctic.

## Fam. Passalozetidae

*Passalozetes africanus* Grandjean, 1932

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Pustertal / Val Pusteria, between Toblach / Dobbiacco and Bruneck / Brunico: in needle litter and moss; surroundings of Lana and Meran / Merano, Brixen / Bressanone, Bolzano / Bozen: in meridional environment [2, 5, 13, 14]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland [17]; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; subalpine dry grassland [19]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks [27].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily, Sardinia; Austria; Switzerland; southern Palaearctic, Holarctic, western Ethiopian.

*Passalozetes bidactylus* (Coggi, 1900)

**South Tyrol:** Mountains around Brenner Pass: cushion plants, limestone phyllit scree (2265–2800 m) [3, 12, 13].

**General distribution:** Italian Alps: BZ (Mountains around Brenner Pass); northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; southern (?) Palaearctic.

**Remark:** The identity of this species is still unresolved (see Bernini 1973, Weigmann 2006), and the records of Schmölzer (1962, 1994) [3, 12, 13] remain doubtful. “*Passalozetes bidactylus*” sensu Willmann (1931) nec Coggi is *P. strenzkei* Weigmann, 2006, which occurs mainly in marine littoral conditions. “*Passalozetes bidactylus*” was reported from several localities in Italy and Spain (Bernini 1973, also from Mongolia (Bayartogtokh & Aoki 1997). A synonymy of some of these records with *P. intermedius* Mihelčič, 1954 can be supposed.

*Passalozetes intermedius* Mihelčič, 1954

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope; subalpine pasture [22]. Matscher Tal / Val di Mazia: dry grassland [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—montane pine forest; subalpine meadow [20]; Tiers / Tires: larch forest pasture, dry grassland [21]; montane wet meadow; subalpine meadow; subalpine dry grassland [19]. Montan / Montagna: Castelfeder—dry grassland [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; southern Palaearctic.

*Passalozetes perforatus* (Berlese, 1910)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland [34]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Dolomites—Schlern / Sciliar area: Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]. Montan / Montagna: Castelfeder—lichens and moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily; Austria; Switzerland; southern Palaearctic.

*Passalozetes* sp.

**South Tyrol:** Montan / Montagna: Castelfeder—moss on rocks [27].

**Remark:** A description is in preparation. This species was also found in arid meadows in Austria—East Tyrol: Virgental.

## Fam. Scutoverticidae

*Lamellovertex caelatus* (Berlese, 1895)

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope [24]. Montan / Montagna: Castelfeder—lichens and moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BS (locus typicus) BZ; northern, southern Italy; Austria; Switzerland; southern

Palaeartic.

*Provertex kuehnelti* Mihelčič, 1959

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [34]. Dolomites—Schlern / Sciliar area: Schlernplateau—subalpine grassland on volcanic rock layers [21].

**General distribution:** Italian Alps: BZ TS; northern Italy (Trieste); Austria; Europe, “boreoalpine”.

*Scutovertex minutus* (C.L. Koch, 1835)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26, 32, sub *S. ianus*]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; scree slope; around cold air cave [24]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—moss on rocks [27]. Fennberg / Favogna: waterside with reeds [23].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sardinia; Austria; Switzerland; Palaeartic, Greenland, New Zealand.

*Scutovertex sculptus* Michael, 1879

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland [34]. Lusen / Luson: in ant nest [15]. Burgstall / Postal: embankment with shrubs; dry meadow on embankment; riparian forest along river Etsch / Adige [16]. Dolomites—Schlern / Sciliar area: Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Bolzano / Bozen: hillside forest near mouth of river Eisack / Isarco [16]. Neumarkt / Egna: ruderal area on embankment of river Etsch / Adige [16]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ [“Veneto”]; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Palaeartic, New Zealand.

## Fam. Phenelopodidae

*Eupelops acromios* (Hermann, 1804)

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2800 m) [3, sub *Pelops acromios*, 12, 13]. Matscher Tal / Val di Mazia: larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Ridnauntal / Val Ridanna: montane forest [28]. Sarntal / Val Sarentino: montane forest [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alp—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Bolzano / Bozen: riparian forest along river Talfer / Talvera; riparian forest at mouth of river Eisack / Isarco [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: ruderal area on embankment of river Etsch / Adige [16].

**General distribution:** Italian Alps: BL BZ; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Palaeartic to semicosmopolitan.

*Eupelops curtipilus* (Berlese, 1916)

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dry grassland [28]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BL BZ; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Palaeartic.

*Eupelops hirtus* (Berlese, 1916)

**South Tyrol:** Fennberg / Favogna: beech mixed deciduous forest [23].

**General distribution:** Italian Alps: BL BZ TN (locus typicus); northern, southern Italy; Austria; Switzerland; Holarctic.

*Eupelops occultus* (C.L. Koch, 1835)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Ridnauntal / Val Ridanna: dry grassland [28]. Sarntal / Val Sarentino: bog Gisser Au [31]. Tisens / Tesimo: sedimentation zone at pond [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Fennberg / Favogna: waterside with reeds [23]. St. Felix / San Felice: montane spruce forest; bogs [30].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy; Austria; Switzerland; Palaearctic.

*Eupelops plicatus* (C.L. Koch, 1835)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; waterside with reeds; Hoferalpl—pine forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland [21]; Plattkofel—scree slope [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: montane wet meadow; brookside Angelbach, subalpine dry grassland [19]. La Val / Wengen / La Valle: Armentara—wet meadow, *Nardetum* [29]. Jenesien / San Genesio Atesino: bog; wet meadow [23, unpubl.]. St. Felix / San Felice: bogs [30]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic.

*Eupelops strenzkei* (Knülle, 1954)

**South Tyrol:** Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18, 32, sub *E. hygrophilus*]. Dolomites—Sella Pass—alpine grassland [33]. Jenesien / San Genesio Atesino: wet meadow [unpubl.]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23, sub *E. hygrophilus*]. St. Felix / San Felice: bogs [30, 32, part. sub *Eupelops hygrophilus*].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Central Europe.

*Eupelops subuliger* (Berlese, 1916)

**South Tyrol:** Mountains around Brenner Pass: *Rhododendretum* (2000 m) [12, 13]. Southern Zillertal Alps (2300–2800 m) [7, 8, 13]. Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: subalpine meadow [31]. Villnöß / Funes: marshy area in spruce forest; around spring [23, unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff [21]; Plattkofel—montane pine forest; scree slope [20]; Tiers / Tires: lower montane forest; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29].

**General distribution:** Italian Alps: BZ SO (locus typicus) TN; northern, southern? Italy; Austria; Switzerland; southern Palaearctic; rare.

*Eupelops tardus* (C.L. Koch, 1835)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog [34, 35]. Pfelderer Tal / Val di Plan: subalpine meadow; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: subalpine meadow [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest, wet meadow [24]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; waterside with reeds; Saltner-



Schwaige—hay meadow, dry grassland, marshy slope; mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: larch forest pasture, dry grassland [21]. Jenesien / San Genesio Atesino: wet meadow [23]. Montan / Montagna: Castelfeder—dry grassland; moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Palaearctic.

*Eupelops torulosus* (C.L. Koch, 1839)

**South Tyrol:** Reschen / Resia: subalpine pasture [22]. Matscher Tal / Val di Mazia: dry grassland; fertilized meadows; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest; around cold air cave [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpl—pine forest, mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland; lower montane forest; montane wet meadow [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; subalpine limestone rocks [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: montane spruce forest; bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic.

*Eupelops variatus* (Mihelčič, 1957)

**South Tyrol:** Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Dolomites—Schlern / Sciliar area: Tierser Alpl—scree with cushion plants [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29].

**General distribution:** Italian Alps: BZ; [southern Italy (cf.)]; South Europe, Caucasus.

*Eupelops* sp.

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath (1900–2385 m) [3, sub *Pelops* sp., 12, 13].

*Eupelops* sp.

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25].

*Peloptulus phaenotus* (C.L. Koch, 1844)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine pasture [22]. Matscher Tal / Val di Mazia: dry grassland; montane pine forest [34]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: subalpine meadow [19]. La Val / Wengen / La Valle: Armentara—subalpine meadow [29]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks; mixed deciduous forest [27]. Neumarkt / Egna: riparian forest at mouth of Trudner Bach / Rio Tredena; ruderal area on embankment of river Etsch / Adige [16]. St. Felix / San Felice: bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Palaearctic.

*Peloptulus reticulatus* Mihelčič, 1957

**South Tyrol:** Villnöß / Funes: marshy area in spruce forest [23].

**General distribution:** Italian Alps: BZ; Central, South Europe, Makaronesia, Caucasus.

*Propelops* (?) sp.

**South Tyrol:** Montan / Montagna: Castelfeder—dry grassland [27].

**Remark:** A single specimen, similar to *Peloptulus phaenotus* (C.L. Koch, 1844) in size and most morphological structures, but with long interlamellar setae.

### Fam. Unduloribatidae

*Unduloribates undulatus* (Berlese, 1914)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants, springs and moorland (2100–2775 m) [3, sub *Tectoribates undulatus*, 12, 13]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—scree slope; subalpine meadow [20].

**General distribution:** Italian Alps: BZ SO (locus typicus); northern Italy; Austria; Switzerland; southern Palearctic. Mainly in alpine habitats.

### Fam. Achipteridae

*Achipteria coleoprata* (Linné, 1758)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine larch forest; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; fertilized meadows; larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; dry grassland [25]. Ridnauntal / Val Ridanna: dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; montane forest; bog Gisser Au [31]. Lana: embankment with shrubs at river Etsch / Adige [16]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; wet meadow [24]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Vintl / Vandoies: in spring [14]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; St. Konstantin—dry grassland; bog [17]; Hoferalpl—pine forest, mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow [20]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; lower montane forest, montane wet meadow [19]. Bolzano / Bozen: embankment with willow at river Etsch / Adige near Sigmundskron; riparian forest with reeds and willows at mouth of river Eisack / Isarco [16]. Jenesien / San Genesio Atesino: wet meadow [23]. Montan / Montagna: Castelfeder—around pond [27]. Neumarkt / Egna: embankment of drainage ditch [23]. St. Felix / San Felice: montane spruce forest; bogs; larch forest pasture [30]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BL BS BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic.

*Achipteria nitens* (Nicolet, 1855)

**South Tyrol:** Ridnauntal / Val Ridanna: montane forest; rocky steppe [28]. Tisens / Tesimo: sedimentation zone at pond [23, sub *Pseudachipteria magna*]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21]. Jenesien / San Genesio Atesino: wet meadow [23]. Neumarkt / Egna: ruderal area on embankment of river Etsch / Adige [16]. St. Felix / San Felice: bogs [30].

**General distribution:** Italian Alps: BL BS BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Achipteria sellnicki* Hammen, 1952

**South Tyrol:** Reschen / Resia: subalpine pasture [22]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Dolomites—Schlern / Sciliar area: Völser Weiher—marsh with willows; mountain pine

shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—montane pine forest; subalpine meadow [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; wet meadow, *Nardetum*; subalpine meadow; subalpine limestone rocks [29]. Karneid / Cornedo all'Isarco: bog [23]. St. Felix / San Felice: montane spruce forest; larch forest pasture; bog around spring [23, 30].

**General distribution:** Italian Alps: BZ TN; northern Italy; Austria; Palaearctic; rare.

*Anachipteria deficiens* Grandjean, 1932

**South Tyrol:** Lusen / Luson: in ant nest [15]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ; northern Italy; Austria; southern Palaearctic.

*Anachipteria shtanchaevae* Subías, 2009

**South Tyrol:** Mountains around Brenner Pass: alpine grassland, cushion plants (2400–2600 m) [3, sub *Tectoribates alpinus*, 12, 13, sub *A. alpina*]. Reschen / Resia: Froi—dry grassland [22, sub *A. alpina*]. Matscher Tal / Val di Mazia: dry grassland [34]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dry grassland [28]. Sarntal / Val Sarentino: montane forest [31]. Dolomites—Schlern / Sciliar area: Tierser Alpl—scree with cushion plants; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21, sub *A. alpina*]; Plattkofel—scree slope [20, sub *A. alpina*]. St. Felix / San Felice: montane spruce forest [30].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Central, South Europe; mainly in montane to alpine habitats.

**Remark:** New name for *Oribata tecta alpina* Schweizer, 1922 nec Halbert.

*Parachipteria fanzagoi* (Jacot, 1929)

**South Tyrol:** Mountains around Brenner Pass: *Rhododendretum* (2000m) [3, sub *Notaspis punctatus*, 12, 13, sub *P. punctata*, also on Austrian side of the border]. Reschen / Resia: marshy slope [22]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Lana: embankment with shrubs at river Etsch / Adige [16]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Völser Weiher—pine forest with springs; waterside with reeds; Hoferalpl—mountain pine shrubs [21, sub *P. willmanni*]; Plattkofel—wet meadow [20, sub *P. willmanni*]; Tiers / Tires: montane wet meadow; subalpine dry grassland [19, sub *P. willmanni*]. Karneid / Cornedo all'Isarco: bog [23]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. Montan / Montagna: Castelfeder—moss on rocks [27]. St. Felix / San Felice: montane spruce forest; bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic, Central America.

**Remark:** synonym: *Parachipteria willmanni* Hammen, 1952; “*Notaspis punctatus*” sensu Sellnick (1928), Willmann (1931) and auct. nec Nicolet.

*Parachipteria punctata* (Nicolet, 1855)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—waterside with reeds [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Eppan / Appiano: embankment of drainage ditch; Kleiner Montiggler See—marsh forest [23].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic.

## Fam. Tegeribatidae

*Tegoribates* sp.

**South Tyrol:** Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; bogs in alpine grassland [21, sub *T. latirostris*]; Plattkofel—wet meadow [20, 32, sub *T. latirostris*]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29, 32, sub *T. latirostris*].

**General distribution:** Italian Alps: BZ.

**Remark:** An undescribed species according to Behan-Pelletier (pers. comm. 2017).

## Fam. Oribatellidae

*Ophidiotrichus tectus* (Michael, 1884)

**South Tyrol:** Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy, Sicily (sub *O. connexus*); Austria; Switzerland; southern Palaearctic.

**Remark:** synonym: *Ophidiotrichus connexus* (Berlese, 1904).

*Oribatella brevipila* Bernini, 1977

**South Tyrol:** Mountains around Brenner Pass: alpine grassland, cushion plants (2100–2775 m) [3, 12, 13, sub *O. berlesei*, also on Austrian side of the border]. Southern Zillertal Alps (2800–3200 m) [7, 8, 13, sub *O. berlesei*]. Villnöß / Funes: around spring. [unpubl.]. Jenesien / San Genesio Atesino: bog around spring [unpubl.]. Bolzano / Bozen: riparian forest at mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Central, South Europe; Palaearctic? (sub “*O. berlesei*”).

**Remark:** synonym: “*Oribatella berlesei*” sensu Sellnick (1928), Willmann (1931) nec Michael.

*Oribatella calcarata* (C.L. Koch, 1835)

**South Tyrol:** Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: bog; montane forest [35]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Sarntal / Val Sarentino: montane forest [31]. Tisens / Tesimo: sedimentation zone at pond [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows; Hoferalpl—pine forest, mountain pine shrubs [21]; Tiers / Tires: montane wet meadow; subalpine forest; brookside Angelbach [19]. Jenesien / San Genesio Atesino: wet meadow [unpubl.]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29]. Fennberg / Favogna: beech mixed deciduous forest [unpubl.].

**General distribution:** Italian Alps: BL BZ TN TO; northern, southern Italy; Austria; Switzerland; Holarctic.

*Oribatella hungarica* Balogh, 1943

**South Tyrol:** Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs [21].

**General distribution:** Italian Alps: BS BZ CO TN TO [“Veneto”]; northern, southern Italy; Austria; Central, South, Southeast Europe.

*Oribatella longispina* Berlese, 1914

**South Tyrol:** Reschen / Resia: marshy slope; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpl—pine forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest; scree slope [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; subalpine

limestone rocks [29]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ SO (locus typicus) TN; northern Italy; Austria; Alps (endemic). Mainly in montane to alpine habitats.

*Oribatella quadricornuta* (Michael, 1880)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog; montane forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; bark on trees, lichens [28]. Sarntal / Val Sarentino: montane forest; bog Gisser Au [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; lower montane forest [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29]. Karneid / Cornedo all'Isarco: bog [23]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Oribatella superbula* Berlese, 1904

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants (2200–2645 m) [3, 12, 13, sub *O. meridionalis*, also on Austrian side of the border]. Pfelderer Tal / Val di Plan: bog [25]. Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs [21, sub *O. sexdentata*]; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Tiers / Tires: larch forest pasture, dry grassland [21].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; southern Palaearctic; rare.

**Remark:** synonym: *Oribatella meridionalis* Berlese, 1910.

## Fam. Haplozetidae

*Haplozetes vindobonensis* (Willmann, 1935)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [34]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; southern Palaearctic, Oriental, Mexico.

*Lagenobates lagenulus* (Berlese, 1904)

**South Tyrol:** Tisens / Tesimo: marsh forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy (sub *Protoribates lagenula*); Austria; Switzerland; Palaearctic.

*Peloribates europaeus* Willmann, 1935

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Sarntal / Val Sarentino: subalpine meadow [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; lichens and moss on rocks; mixed deciduous forest [27]. St. Felix / San Felice: montane spruce forest [30].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; southern Palaearctic, Holarctic, Mexico.

*Peloribates longipilosus* Csiszar, 1962

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; bog [35]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: bog Gisser Au [31].

**General distribution:** Italian Alps: BZ TN; northern Italy; Austria; southern Palaearctic.



*Protoribates capucinus* Berlese, 1908

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: pond “Hilbenlacke” (submerged habitat) [28]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: embankment of drainage ditch [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; semicosmopolitan.

*Protoribates lophothrichus* (Berlese, 1904)

**South Tyrol:** Tisens / Tesimo: marsh forest [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27, sub *P. dentatus*]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: embankment of drainage ditch [23]. Fennberg / Favogna: waterside with reeds [23, sub *P. dentatus*]

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Holarctic to semicosmopolitan.

**Remark:** All above records are *P. lophothrichus* according to Weigmann *et al.* (1993).

## Fam. Mochlozetidae

*Podoribates longipes* (Berlese, 1887)

**South Tyrol:** Sarntal / Val Sarentino: bog Gisser Au [31]. Burgstall / Postal: embankment with shrubs; dry meadow on embankment at river Adige / [16]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]. Bolzano / Bozen: embankment with willow at river Etsch / Adige near Sigmundskron; riparian forest at mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BZ TO; northern, southern Italy; Austria; Holarctic.

## Fam. Oribatulidae

*Oribatula amblyptera* Berlese, 1916

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: subalpine meadow; bog; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; dry grassland; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Völser Weiher—pine forest with springs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—wet meadow; montane pine forest; subalpine meadow [20]. La Val / Wengen / La Valle: Armentara—larch forest pasture; subalpine limestone rocks [29]. Karneid / Cornedo all’Isarco: bog [23]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: embankment of drainage ditch [23]. St. Felix / San Felice: bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BG (locus typicus) BZ TN; northern, southern Italy; Austria; Central, South, Southeast Europe.

*Oribatula caliptera* Berlese, 1902

**South Tyrol:** Montan / Montagna: Castelfeder—cushion plants; lichens and moss on rocks; mixed deciduous forest; bog [27].

**General distribution:** Italian Alps: BS BZ; northern, southern Italy; southern Palearctic.

**Remark:** possibly occasionally confused with *O. amblyptera* Berlese, 1916.

*Oribatula interrupta* (Willmann, 1939)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog; montane forest [34, 35]. Pfelderer Tal / Val di Plan: subalpine meadow; montane forest; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: montane forest; rocky steppe; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; montane pine forest; subalpine meadow [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: brookside Angelbach; subalpine dry grassland [19]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Palaearctic. Frequently in montane to alpine habitats.

**Remark:** The citation in Schmölzer & Hellrigl (1996) [13] is marked as "possible record" in South Tyrol. It refers to a record of Mihelčič (1963) in Austria, East Tyrol.

*Oribatula longelamellata* Schweizer, 1956

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland [34, 35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; dry grassland; leaf litter and cushion plants in limestone cliff [25]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Central, Southeast Europe. Mainly in montane to alpine habitats.

*Oribatula tibialis* (Nicolet, 1855)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants, limestone phyllit scree, snow combs (2000–2700 m) [3, 12, 13, also on Austrian side of the border]. Reschen / Resia: Froi—dry grassland; marshy slope; subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; dry grassland [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Völser Weiher—marsh with willows [21]; St. Konstantin—dry grassland; bog [17]; Hoferalpl—mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; subalpine forest; subalpine meadow; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ SO TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic.

*Phauloppia lucorum* (C.L. Koch, 1841)

**South Tyrol:** Reschen / Resia: pasture; Froi—dry grassland; marshy slope; subalpine larch forest [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: montane forest; bark on trees, lichens; pond "Hilbenlacke" (submerged habitat) [28]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; scree slope [24]. surroundings of Lana and Meran / Merano: in meridional environment [2, sub *Lucoppia lucorum*, 13]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest

pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—larch forest pasture; subalpine limestone rocks [29]. Montan / Montagna: Castelfeder—lichens and moss on rocks; mixed deciduous forest [27]. St. Felix / San Felice: bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BS BZ TN VI; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic.

*Phauloppia nemoralis* (Berlese, 1916)

**South Tyrol:** Ridnauntal / Val Ridanna: bark on trees, lichens [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21]; Tiers / Tires: larch forest pasture, dry grassland [19]. Montan / Montagna: Castelfeder—moss on rocks [27]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily; Austria; Switzerland; Central, South, Southeast Europe.

*Phauloppia pilosa* (C.L. Koch, 1841)

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; scree slope [24].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily; Austria; Holarctic; rare.

*Phauloppia rauschenensis* (Sellnick, 1908)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Plattkofel—montane pine forest, bark on trees, lichens [unpubl.]. Matscher Tal / Val di Mazia: dry grassland [34].

**General distribution:** Italian Alps: BZ; southern Italy (sub *Eporibatula rauschenensis*); Austria; Switzerland; Palaearctic, Central America.

*Pseudoppia* sp. nr. *mediocris*

**South Tyrol:** Matscher Tal / Val di Mazia: montane forest [32, sub *P. mediocris*, 34]. Ridnauntal / Val Ridanna: dwarf shrub heath [28, 32, sub *P. mediocris*]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29, 32, sub *P. mediocris*].

**Remark:** All specimens recorded from South Tyrol belong to the same species and differ from the original description (Mihelčič 1957) and redescription (Pérez-Íñigo 1966) in some morphological features. A detailed description is in preparation.

*Zygoribatula excavata* (Berlese, 1916)

**South Tyrol:** Sarntal / Val Sarentino: montane forest [31]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks; mixed deciduous forest [27, sub *Z. exarata* Berlese, 1916, *lapsus*].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; Austria (unpublished records); southwestern Palaearctic.

*Zygoribatula exilis* (Nicolet, 1855)

**South Tyrol:** Mountains around Brenner Pass: alpine grassland (2265 m) [3, sub *Oribatula exilis*, 12, 13]. Matscher Tal / Val di Mazia: larch forest pasture [35]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; rocky steppe; bark on trees, lichens [28]. Burgstall / Postal: dry meadow on embankment and riparian forest at river Etsch / Adige [16]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; scree slope [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs [21]; St. Konstantin—dry grassland; bog [17]; Plattkofel—montane pine forest [20]; Tiers / Tires: larch forest pasture, dry grassland [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum* [29]. Bolzano / Bozen: riparian forest on Talfer / Talvera below Runkelstein castle and at mouth of river Eisack / Isarco [16]. Neumarkt / Egna: ruderal area on embankment of river Etsch / Adige; embankment of drainage ditch [16, 23].

**General distribution:** Italian Alps: BG BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Zygoribatula frisiae* (Oudemans, 1900)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland [34]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: subalpine meadow [25]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; Holarctic.

*Zygoribatula glabra* (Michael, 1890)

**South Tyrol:** Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks [27].

**General distribution:** Italian Alps: BZ; southern Italy, Sicily, Sardinia; Austria; southern Palearctic.

*Zygoribatula propinqua* (Oudemans, 1900)

**South Tyrol:** Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern Italy, Sicily, Sardinia; Austria; Switzerland; Palearctic.

## Fam. Parakalummidae

*Neoribates aurantiacus* (Oudemans, 1914)

**South Tyrol:** Matscher Tal / Val di Mazia: fertilized meadows; larch forest pasture; bog; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; dry grassland [25]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Tisens / Tesimo: sedimentation zone at pond [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; scree slope; around cold air cave [24]. Pustertal / Val Pusteria, between Toblach / Dobbiacco and Bruneck / Brunico: in needle litter and moss, in meridional environment [2, 13]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; St. Konstantin—bog [17]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: montane spruce forest [30].

**General distribution:** Italian Alps: BZ TN; northern Italy, Sicily; Austria; Switzerland; Holarctic.

## Fam. Scheloribatidae

*Dometorina plantivaga* (Berlese, 1895)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Montan / Montagna: Castelfeder—lichens on rocks [27].

**General distribution:** Italian Alps: BL BZ [“Veneto” (locus typicus)]; northern, southern Italy, Sicily; Austria; Switzerland; semicosmopolitan.

*Hemileius humeralis* Pérez-Íñigo jr., 1990

**South Tyrol:** Dolomites—Schlern / Sciliar area: Schlernplateau—subalpine grassland on volcanic rock layers [21].

**General distribution:** Italian Alps: BZ; South Europe, Makaronesia, Caucasus, Central Asia.

**Remark:** Taxonomic remarks and distribution see Bayartogtokh *et al.* (2011).

*Hemileius initialis* (Berlese, 1908)

**South Tyrol:** Mountains around Brenner Pass: alpine grassland (2385 m) [3, sub *Scheloribates confundatus*, 12, 13]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog; montane forest; montane pine forest [34, 35]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis*; bog Gisser Au [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane

forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows; Hoferalpl—pine forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—scree slope [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; lower montane forest; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; subalpine limestone rocks [29]. Jenesien / San Genesio Atesino: wet meadow [23]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks [27]. St. Felix / San Felice: montane spruce forest; larch forest pasture [30].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Palaearctic, Oriental, South America.

**Remark:** synonym: *Schelorbates confundatus* Sellnick, 1928.

*Liebstadia humerata* Sellnick, 1928

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; montane pine forest [34]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Bolzano / Bozen: riparian forest along river Talfer / Talvera [16]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BL BZ TV; northern, southern Italy, Sicily, Sardinia; Austria; Holarctic, Oriental.

*Liebstadia longior* (Berlese, 1908)

**South Tyrol:** Ridnauntal / Val Ridanna: montane forest; bark on trees, lichens [28]. Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs [21]; Tiers / Tires: larch forest pasture, dry grassland [21]; montane wet meadow, subalpine dry grassland [19]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; southern Italy (sub *Protoribates longior*); Austria; Switzerland; southern Palaearctic, Holarctic.

*Liebstadia pannonica* (Willmann, 1951)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; subalpine larch forest [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Sarntal / Val Sarentino: subalpine meadow [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hoferalpl—mountain pine shrubs [21]; Plattkofel—subalpine meadow [20]; Tiers / Tires: larch forest pasture, dry grassland [19]. Jenesien / San Genesio Atesino: marshy slope [23]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks; mixed deciduous forest [27]. St. Felix / San Felice: bog around spring [23].

**General distribution:** Italian Alps: BZ; northern Italy (sub *Protoribates austriacus*); Austria; Switzerland; southern Palaearctic, Holarctic, Oriental.

*Liebstadia similis* (Michael, 1888)

**South Tyrol:** Mountains around Brenner Pass: cushion plants, limestone phyllit scree (2100–2800 m) [3, 12, 13]. Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34]. Pfelderer Tal / Val di Plan: bog [25]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23, unpubl.]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Villnöß / Funes: marshy area in spruce forest; around spring [23, unpubl.]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; waterside with reeds [21]; St. Konstantin—dry grassland; bog [17]; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland, alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest; subalpine meadow [20]. La Val / Wengen / La Valle: Armentara—larch forest pasture; subalpine limestone rocks [29]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: ruderal area on embankment of river Etsch / Adige



[16]. St. Felix / San Felice: bog around spring [23].

**General distribution:** Italian Alps: BL BZ TN TV; northern, southern Italy; Austria; Switzerland; Holarctic, New Zealand.

*Liebstadia willmanni* Miko & Weigmann, 1996

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest. [34, 35]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; mountain pine shrubs; Hoferalpl—pine forest; Schlernplateau—alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; Austria; Central, Southeast Europe.

*Schelorbates ascendens* Weigmann & Wunderle, 1990

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [35]. Ridnauntal / Val Ridanna: bark on trees, lichens [28]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; scree slope; around cold air cave [24]. Dolomites—Schlern / Sciliar area: Völser Weiher—waterside with reeds [21]. Montan / Montagna: Castelfeder—mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Central Europe.

*Schelorbates laevigatus* (C.L. Koch, 1835)

**South Tyrol:** Reschen / Resia: Froi—dry grassland; marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; fertilized meadows; larch forest pasture; bog; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: subalpine meadow; montane forest; bog; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Lana: embankment with shrubs; Burgstall / Postal: dry meadow on embankment and riparian forest at river Etsch / Adige [16]. Tisens / Tesimo: sedimentation zone at pond; marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; montane forest along brook; Völser Weiher—pine forest with springs; waterside with reeds [21]; St. Konstantin—dry grassland; bog [17]; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Hoferalpl—pine forest, mountain pine shrubs; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow [20]; Tiers / Tires: larch forest pasture, dry grassland [21]; montane wet meadow, subalpine forest, subalpine meadow [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; wet meadow, *Nardetum*; subalpine meadow [29]. Karneid / Cornedo all'Isarco: bog [23]. Bolzano / Bozen: riparian forest along river Talfer / Talvera; embankment, riparian forests with willow at river Etsch / Adige near Sigmundskron and at mouth of river Eisack / Isarco [16]. Jenesien / San Genesio Atesino: wet meadow; marshy slope with springs [23]. Vadena / Pfatten: riparian forest at river Etsch / Adige [16]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; lichens and moss on rocks; mixed deciduous forest [27]. Neumarkt / Egna: riparian forest ruderal area with shrubs on embankment along river Etsch / Adige; riparian forest at the mouth of Trudner Bach / Rio Trodena [16]. St. Felix / San Felice: bogs; bog and sedimentation zone at Felixer Weiher / Lago di Tret [23, 30].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; semicosmopolitan.

*Schelorbates latipes* (C.L. Koch, 1844)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Tisens / Tesimo: marsh forest [23]. Villnöß / Funes: marshy area in spruce forest [23]. Bolzano / Bozen: riparian forest along river Talfer / Talvera; riparian forest near mouth of river Eisack / Isarco [16]. Eppan / Appiano: embankment of drainage ditch [23]. Kurtinig / Cortina sulla Strada del Vino: ruderal area on embankment

of river Etsch / Adige; embankment of drainage ditch [16, 23]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27].

**General distribution:** Italian Alps: BL BS BZ TN TO; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic, western Oriental.

*Scheloribates pallidulus* (C.L. Koch, 1841)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: rocky steppe [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; wet meadow [24]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest; Hoferalpe—mountain pine shrubs [21]; Plattkofel—wet meadow; scree slope [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; montane wet meadow; brookside Angelbach [19]. Karneid / Cornedo all'Isarco: bog [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Neumarkt / Egna: embankment of drainage ditch [23]. Fennberg / Favogna: waterside with reeds [23]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic to semicosmopolitan.

*Topobates circumcarinatus* Weigmann & Miko, 1998 [*Scheloribates* (*Topobates*)]

**South Tyrol:** Reschen / Resia: marshy slope [22]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; waterside with reeds [21]; Plattkofel—wet meadow [20]. La Val / Wengen / La Valle: Armentara—wet meadow, *Nardetum*; subalpine meadow [29]. Karneid / Cornedo all'Isarco: bog [23]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: bogs [30].

**General distribution:** Italian Alps: BZ TN; Austria; Central Europe.

**Remark:** teste G. Weigmann.

*Topobates holsaticus* Weigmann, 1969 [*Scheloribates* (*Topobates*)]

**South Tyrol:** Matscher Tal / Val di Mazia: fertilized meadows [34]. Montan / Montagna: Castelfeder—dry grassland; cushion plants [27].

**General distribution:** Italian Alps: BZ; Central, Southwest Europe, Caucasus, western Palaearctic.

**Remark:** teste G. Weigmann.

## Fam. Ceratozetidae

*Ceratozetes gracilis* (Michael, 1884)

**South Tyrol:** Southern Zillertal Alps (2500–2800 m) [7, 8, 13]. Reschen / Resia: subalpine pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog [34, 35]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Sarntal / Val Sarentino: subalpine meadow [31]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen, Hauenstein—dry spruce forest [21]; St. Konstantin—dry grassland; bog [17]; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Tiers / Tires: subalpine forest [19].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy; Austria; Switzerland; cosmopolitan.

*Ceratozetes mediocris* Berlese, 1908

**South Tyrol:** Natz-Schabs / Naz-Sciaves: Raier Moos—wetland; Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Tiers / Tires: larch forest pasture, dry grassland [21]. Montan / Montagna: Castelfeder—bog [27].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy; Austria; semicosmopolitan.

*Ceratozetes minutissimus* Willmann, 1951

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Montan / Montagna: Castelfeder—cushion plants; mixed deciduous forest [27]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; southern Palearctic.

*Ceratozetes sellnicki* Rajski, 1958

**South Tyrol:** Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest [24]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25].

**General distribution:** Italian Alps: BZ; Austria; Palearctic.

*Ceratozetes thienemanni* Willmann, 1943

**South Tyrol:** Matscher Tal / Val di Mazia: montane pine forest [34]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forests [21]; Tiers / Tires: subalpine forest [19].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Holarctic, Neotropical.

*Ceratozetoides maximus* (Berlese, 1908)

**South Tyrol:** Lana, Burgstall / Postal: embankment with shrubs; dry meadow on embankment; riparian forest along river Etsch / Adige; Bolzano / Bozen: embankment with willow at river Etsch / Adige near Sigmundskron; Vadena / Pfatten: riparian forest at river Etsch / Adige [16, sub *Ceratozetes cisalpinus*].

**General distribution:** Italian Alps: BZ; southern Italy; Austria; southwestern Palearctic, Central America (Cuba).

**Remark:** possible synonym: *Ceratozetoides cisalpinus* (Berlese, 1908), see Bernini (1971), Weigmann (2006).

*Diapterobates humeralis* (Hermann, 1804)

**South Tyrol:** Southern Zillertal Alps (1850–2300 m) [7, 8, 13]. Reschen / Resia: marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: subalpine meadow; montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; bark on trees, lichens [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis*; bog Gisser Au [31]. Lana: embankment at river Etsch / Adige [16]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzen—montane forest along brook; Hauenstein—dry spruce forest [21]; St. Konstantin—dry grassland; bog [17]; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture [21]; Sella Pass—alpine grassland [33]; Tiers / Tires: subalpine meadow; brookside Angelbach, subalpine dry grassland [19]. Vadena / Pfatten: riparian forest at river Etsch / Adige; Neumarkt / Egna: riparian forest at the mouth of Trudner Bach / Rio Trodena; ruderal area with shrubs on embankment of river Etsch / Adige [16]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic. Frequently in montane to alpine habitats.

*Edwardzetes edwardsi* (Nicolet, 1855)

**South Tyrol:** Mountains around Brenner Pass: cushion plants [2885 m] [3, 12, 13]. Southern Zillertal Alps (2500–2800 m) [7, 8, 13]. Reschen / Resia: marshy slope; subalpine pasture [22]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23].

Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hoferalpl—pine forest; mountain pine shrubs [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: lower montane forest; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Neumarkt / Egna: embankment of drainage ditch [23]. St. Felix / San Felice: bogs; larch forest pasture [30]. Altei / Anterivo: Langes Moos / Palù Longa—bog [unpubl.].

**General distribution:** Italian Alps: BL BZ TN; northern, southern Italy; Austria; Switzerland; Europe, Greenland, Caucasus, "arctoalpine". Frequently in montane to alpine habitats.

*Fuscozetes fuscipes* (C.L. Koch, 1844)

**South Tyrol:** Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17]; Plattkofel—subalpine meadow [20].

**General distribution:** Italian Alps: BL BZ TN; northern Italy; Austria; Switzerland; Holarctic, Oriental. Frequently in montane to alpine habitats.

*Fuscozetes intermedius* Caroli & Maffia, 1934

**South Tyrol:** Pfelderer Tal / Val di Plan: dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: rocky steppe; dry grassland [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; montane pine forest; scree slope; subalpine meadow [20, sub *F. tatricus*]; Sella Pass—alpine grassland [33]. La Val / Wengen / La Valle: Armentara—larch forest pasture, wet meadow, *Nardetum*; subalpine meadow [29]. Karneid / Cornedo all'Isarco: bog [23]. St. Felix / San Felice: bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN (locus typicus); northern Italy; Austria; Central, South Europe, western Palaearctic. Mainly in montane to high alpine habitats.

**Remarks:** possible synonym: *Fuscozetes tatricus* Seniczak, 1993. The reference in Schmölzer & Hellrigl (1996) [13] concerns Caroli & Maffia (1934) (TN, Passo Rolle).

*Fuscozetes setosus* (C.L. Koch, 1839)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants, cushion plants, limestone phyllit scree, scree slope, boulders, snow combs, springs and moorland (1900–2800 m [3, 12, 13]. Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: bog; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: subalpine meadow; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; pond "Hilbenlacke" (submerged habitat) [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpl—pine forest; mountain pine shrubs; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest; scree slope; subalpine meadow [20]; Tiers / Tires: lower montane forest, montane wet meadow, subalpine forest, subalpine meadow; brookside Angelbach, subalpine dry grassland [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23].

**General distribution:** Italian Alps: BZ ["Veneto"]; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic. Frequently in montane to high alpine habitats.

*Jugatala angulata* (C.L. Koch, 1840)

**South Tyrol:** Reschen / Resia: pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest and pasture; montane pine forest [34, 35]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Central, Southeast Europe. Frequently in montane to alpine habitats.

**Remark:** Taxonomic remarks and distribution see Bayartogtokh & Schatz (2008a).



*Jugatala cribelliger* (Berlese, 1904)

**South Tyrol:** Ridnauntal / Val Ridanna: pond “Hilbenlacke” (submerged habitat) [28]. Dolomites—Schlern / Sciliar area: Plattkofel—scree slope [20]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ TN; northern Italy (sub *Mycobates?* *cribelliger*); Austria; Switzerland; Central Europe (Alps), South Europe. Mainly in montane to high alpine habitats.

**Remark:** Taxonomic remarks and distribution see Bayartogtokh & Schatz (2008a).

*Lepidozetes singularis* Berlese, 1910

**South Tyrol:** Reschen / Resia: marshy slope [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; rocky steppe; bark on trees, lichens [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—alpine pasture [21]; Plattkofel—montane pine forest; scree slope; subalpine meadow [20]; Tiers / Tires: brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic. Mainly in alpine to high alpine habitats.

**Remark:** Placed in family Ceratozetidae according to Seniczak *et al.* (2014).

*Melanozetes interruptus* Willmann, 1953

**South Tyrol:** La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Palaearctic. Mainly in alpine habitats.

*Melanozetes meridianus* Sellnick, 1928

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2450–2775 m) [3, 12, 13]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; *Alnetum viridis* [31]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: St. Konstantin—dry grassland; bog [17]; Schlernplateau—subalpine grassland on volcanic rock layers [21].

**General distribution:** Italian Alps: BZ TN; Austria; Switzerland; Holarctic. Frequently in montane to alpine habitats.

*Melanozetes mollicomus* (C.L. Koch, 1839)

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, snow combs, springs and moorland (2280–2450 m) [3, 12, 13, also on Austrian side of the border]. Reschen / Resia: marshy slope; subalpine pasture [22]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: montane forest; bog at “Aglsboden” [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest; mountain pine shrubs; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—bogs in alpine grassland [21]; Tiers / Tires: brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic, “arctoalpine”. Frequently in montane to alpine habitats.

*Melanozetes mollisimilis* Schweizer, 1956

**South Tyrol:** Southern Zillertal Alps (2500–2800 m) [7, 8, 13].

**General distribution:** Italian Alps: BZ (Zillertaler Alpen); Switzerland; Central Europe (Alps, Carpathians), Caucasus. Montane to alpine habitats.



*Oromurcia sudetica* Willmann, 1939

**South Tyrol:** Reschen / Resia: marshy slope [22]. Pfelderer Tal / Val di Plan: bog [25]. Ridnauntal / Val Ridanna: bog at “Aglboden” [28]. Sarntal / Val Sarentino: bog Gisser Au [31]. Tisens / Tesimo: marsh forest [23, sub *Trichoribates* sp.]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Schlernplateau—bogs in alpine grassland; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow [20]. St. Felix / San Felice: bogs [30].

**General distribution:** Italian Alps: BZ TN; Austria; Europe, Caucasus. Mainly in montane to alpine habitats.

*Sphaerozetes piriformis* (Nicolet, 1855)

**South Tyrol:** Southern Zillertal Alps (2500–2800 m) [7, 8, 13]. Matscher Tal / Val di Mazia: montane forest [35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; pond “Hilbenlacke” (submerged habitat) [28]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Tisens / Tesimo: sedimentation zone at pond [23]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; mountain pine shrubs; Völser Weiher—pine forest with springs [21]; St. Konstantin—dry grassland; bog [17]; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff [21]; Plattkofel—montane pine forest; subalpine meadow [20]; Tiers / Tires: subalpine forest [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Vadena / Pfatten: riparian forest; Neumarkt / Egna: ruderal area with shrubs on embankment of river Etsch / Adige [16]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Palaearctic.

*Trichoribates berlesei* Jacot, 1929

**South Tyrol:** Mountains around Brenner Pass: dwarf shrub heath, cushion plants, limestone phyllit scree (2280–2800 m) [3, 12, 13, sub *T. trimaculatus*, also on Austrian side of the border]. Southern Zillertal Alps (2500–2800 m) [7, 8, 13, sub *T. trimaculatus*]. Reschen / Resia: Froi—dry grassland; marshy slope; subalpine pasture [22, sub *T. trimaculatus*]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26, sub *T. trimaculatus*]. Pfelderer Tal / Val di Plan: bog [25, sub *T. trimaculatus*]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28, sub *T. trimaculatus*]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Burgstall / Postal: riparian forest along river Etsch / Adige [16, sub *T. trimaculatus*]. Tisens / Tesimo: sedimentation zone at pond [23, sub *T. trimaculatus*]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18, sub *T. trimaculatus*]. scree slope in spruce forest [24, sub *T. trimaculatus*]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; waterside with reeds; St. Konstantin—dry grassland; bog [17, sub *T. trimaculatus*]; Hoferalpl—pine forest; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—mountain pine shrubs; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21, sub *T. trimaculatus*]; Plattkofel—wet meadow; scree slope; subalpine meadow [20, sub *T. trimaculatus*]; Tiers / Tires: burnt forest site, deciduous and pine forest; brookside Angelbach; subalpine dry grassland [19, sub *T. trimaculatus*]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29, sub *T. trimaculatus*]. Jenesien / San Genesio Atesino: wet meadow [23, sub *T. trimaculatus*]. Montan / Montagna: Castelfeder—lichens on rocks [27, sub *T. trimaculatus*]. Neumarkt / Egna: embankment of drainage ditch [23, sub *T. trimaculatus*]. St. Felix / San Felice: montane spruce forest; larch forest pasture [30, sub *T. trimaculatus*].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily (*Trichoribates trimaculatus* = ?*T. berlesei* Jacot, 1929); Austria; Switzerland (sub *T. trimaculatus*); Holarctic, Oriental.

**Remarks:** Taxonomic remarks and distribution see Bayartogtokh & Schatz (2008a, sub *T. trimaculatus*); synonym: *Trichoribates trimaculatus* (C.L. Koch, 1835), according to Weigmann & Norton (2009).

*Trichoribates incisellus* (Kramer, 1897)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; bog [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dry grassland [28]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Dolomites—Schlern / Sciliar area: Schlernplateau—subalpine grassland on volcanic rock layers; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; subalpine meadow [20]; Sella Pass—alpine grassland [33].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia (sub *Latilamellobates incisellus*); Austria; Switzerland; Holarctic.

*Trichoribates monticola* (Trägårdh, 1902)

**South Tyrol:** Mountains around Brenner Pass: cushion plants (2800 m) [3, 13, sub *Trichoribates* spec., 12, 13, sub *T. montanus*]. Ridnauntal / Val Ridanna: dry grassland [28]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—scree around summit Petz / M. Pez, cushion plants [21]; Langkofel—scree slope [1, 13, sub *Trichoribates? montanus*].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Europe, Caucasus. Mainly in montane to alpine habitats.

**Remark:** possible synonym: *Trichoribates montanus* Irk, 1939, see Bayartogtokh & Schatz (2008a), Schatz (2008a).

*Trichoribates novus* (Sellnick, 1928)

**South Tyrol:** Reschen / Resia: subalpine pasture [22]. Matscher Tal / Val di Mazia: dry grassland; fertilized meadows; montane pine forest [34]. Pfelderer Tal / Val di Plan: subalpine meadow; montane forest with *Rhododendron*; dry grassland [25]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Tisens / Tesimo: sedimentation zone at pond [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: wet meadow [24]. Dolomites—Schlern / Sciliar area: Saltner-Schwaige—hay meadow, dry grassland, marshy slope; Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—wet meadow; scree slope; subalpine meadow [20]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. St. Felix / San Felice: bog and sedimentation zone at Felixer Weiher / Lago di Tret [23].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic.

*Trichoribates scilierensis* Bayartogtokh & Schatz, 2008

**South Tyrol:** Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ahrntal / Valle Aurina near Bruneck / Brunico: around cold air cave [24]. Dolomites—Schlern / Sciliar area: Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; mountain pine shrubs [21]; Schlernplateau—subalpine grassland on volcanic rock layers; bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—scree slope; subalpine meadow [20, sub *T. trimaculatus* part., also sub *Latilamellobates* cf. *oxypterus*]; Sella Pass—alpine grassland [33]; La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ (locus typicus) TN; Austria; Alps (endemic). In alpine and high alpine habitats.

**Remark:** Original description: Bayartogtokh & Schatz (2008a).

*Trichoribates zingerlei* Bayartogtokh & Schatz, 2008

**South Tyrol:** Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff [21].

**General distribution:** Italian Alps: BZ (locus typicus); Alps (endemic). Only recorded on type locality in subalpine habitat.

**Remark:** Original description: Bayartogtokh & Schatz (2008b).

## Fam. Chamobatidae

*Chamobates birulai* (Kulczynski, 1902)

**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Matscher Tal / Val di Mazia: larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine meadow; montane forest [31]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff [21]; Plattkofel—montane pine forest [20]; Sella Pass—alpine grassland [33]; Tiers / Tires: lower montane forest; subalpine forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; subalpine limestone rocks [29]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: montane spruce forest; larch forest pasture [30].

**General distribution:** Italian Alps: BZ; Austria; Palaearctic, Greenland.

**Remark:** possible synonym: *Chamobates tricuspidatus* Willmann, 1953 sensu Weigmann (2006).

*Chamobates borealis* (Trägårdh, 1902) [? see remarks]

**South Tyrol:** Reschen / Resia: marshy slope; subalpine larch forest and pasture [22]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe; bark on trees, lichens; pond “Hilbenlacke” (submerged habitat) [28]. Tisens / Tesimo: sedimentation zone at pond [23]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; around cold air cave; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Touristensteig—grassy dwarf shrub heath with cushion plants on cliff; Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpl—pine forest; mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—montane pine forest [20]; Sella Pass—alpine grassland [33]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; subalpine meadow; subalpine limestone rocks [29]. Eppan / Appiano: embankment of drainage ditch [23]. St. Felix / San Felice: bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Holarctic.

**Remark:** possible synonym of *Chamobates pusillus* (Berlese, 1895) according to Mahunka & Mahunka-Papp 1995, Subías (2004, 2018). Bernini *et al.* (1995) and Weigmann (2006) support this synonymy, but Weigmann (op. cit., p. 403) listed morphological differences to “*Ch. pusillus*” sensu Berlese. According to that the name “*Ch. borealis*” sensu Trägårdh should be *Ch. pusillus*, and “*Ch. pusillus*” sensu Berlese is another species.

*Chamobates cuspidatus* (Michael, 1884)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Sarntal / Val Sarentino: subalpine meadow [31]. Lana: embankment with shrubs; Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Tisens / Tesimo: marsh forest [23]. Vintl / Vandoies: in spring [14]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Völser Weiher—waterside with reeds [21]; St. Konstantin—dry grassland; bog [17]; Tiers / Tires: subalpine forest; brookside Angelbach [19]. Karneid / Cornedo all’Isarco: bog [23]. Bolzano / Bozen: riparian forest along river Talfer / Talvera; riparian and hillside forest near mouth of river Eisack / Isarco; / Pfatten: riparian forest at river Etsch / Adige [16]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: montane spruce forest [30].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy; Austria; Holarctic, Seychelles.

*Chamobates interpositus* Pschorn-Walcher, 1953

**South Tyrol:** Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest

[27].

**General distribution:** Italian Alps: BZ; Austria; Central, South, Southeast Europe, Mediterranean.

*Chamobates pusillus* (Berlese, 1895)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture; bog; montane forest [35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron*; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis*; bog Gisser Au [31]. Burgstall / Postal: embankment with shrubs at river Etsch / Adige [16]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; Tiers / Tires: larch forest pasture, dry grassland [21]; lower montane forest; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29]. Bolzano / Bozen: riparian forest along river Talfer / Talvera; Bolzano / Bozen: riparian forest at mouth of river Eisack / Isarco [16]. Montan / Montagna: Castelfeder—moss on rocks [27]. Neumarkt / Egna: riparian forest at the mouth of Trudner Bach / Rio Trodena [16]; embankment of drainage ditch [16, 23].

**General distribution:** Italian Alps: BG BS BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic.

**Remark:** see *Chamobates borealis*.

*Chamobates rastratus* (Hull, 1914)

**South Tyrol:** Reschen / Resia: subalpine larch forest [22, sub *Ch. spinosus*]. Matscher Tal / Val di Mazia: larch forest pasture; montane forest [35]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests [21, sub *Ch. spinosus*]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29, sub *Ch. spinosus*]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13, sub *Ch. spinosus*]

**General distribution:** Italian Alps: BZ; Austria; Palaearctic. Frequently in montane to alpine habitats.

**Remark:** synonym: *Chamobates spinosus* Sellnick, 1928 according to Mahunka & Mahunka-Papp (2004).

*Chamobates voigtsi* (Oudemans, 1902)

**South Tyrol:** Reschen / Resia: marshy slope, subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest; rocky steppe [28]. Sarntal / Val Sarentino: subalpine meadow; subalpine forest; montane forest; *Alnetum viridis* [31]. Tisens / Tesimo: marsh forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows; Hoferalpl—pine forest, mountain pine shrubs; Saltner-Schwaige—hay meadow, dry grassland, marshy slope [21]; Plattkofel—scree slope [20]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture [29]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. Montan / Montagna: Castelfeder—mixed deciduous forest [27]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: montane spruce forest; larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern Italy (sub *Xiphobates voigtsi*); Austria; Switzerland; Palaearctic.

*Globozetes longipilus* Sellnick, 1928

**South Tyrol:** Lana: embankment with shrubs at river Etsch / Adige [16]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. Bolzano / Bozen: riparian and hillside forest near mouth of river Eisack / Isarco [16].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy; Austria; southern Palaearctic; rare.

## Fam. Euzetidae



*Euzetes globulus* (Nicolet, 1855)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [35]. Lana: embankment with shrubs; Burgstall / Postal: dry meadow on embankment, shrubs and riparian forest along river Etsch / Adige [16]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; spruce forest; around cold air cave; wet meadow [24]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs [21]. La Val / Wengen / La Valle: Armentara—subalpine limestone rocks [29]. Bolzano / Bozen: riparian forest at mouth of Talfer / Talvera [16]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: riparian forest along river Etsch / Adige and the mouth of Trudner Bach / Rio Trodena [16]. St. Felix / San Felice: bog around spring [23]. [Mountains around Brenner Pass, on Austrian side of the border, 3, sub *Sphaerozetes* [*sic*] *aterrimus*, 12, 13, sub *Sphaerozetes aterrimus*]

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic, Neotropical.

**Remark:** synonym: *Sphaerozetes aterrimus* (C.L. Koch, 1844).

## Fam. Humerobatidae

*Humerobates rostromellatus* Grandjean, 1936

**South Tyrol:** Villnöß / Funes: around spring [unpubl.].

**General distribution:** Italian Alps: BL BZ; northern, southern Italy, Sicily, Sardinia; Austria; Holarctic to semicosmopolitan.

## Fam. Mycobatidae

*Feiderzetes latus* (Schweizer, 1956)

**South Tyrol:** Matscher Tal / Val di Mazia: larch forest pasture [34, 35].

**General distribution:** Italian Alps: BZ; Switzerland; southern Italy; Central, South, Southeast Europe.

*Minunthozetes pseudofusiger* (Schweizer, 1922)

**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Ridnauntal / Val Ridanna: montane forest [28]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest; scree slope [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hauenstein—dry spruce forest [21]; Plattkofel—montane pine forest [20]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; subalpine forest [19]. Bolzano / Bozen: riparian forest at mouth of river Talfer / Talvera [16].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic.

*Minunthozetes semirufus* (C.L. Koch, 1841)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Ridnauntal / Val Ridanna: dwarf shrub heath; montane forest [28]. Sarntal / Val Sarentino: subalpine meadow [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; around cold air cave; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; marsh with willows and reeds [21]; St. Konstantin—dry grassland; bog [17]; Hoferalpe—pine forest [21]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]; montane wet meadow [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Jenesien / San Genesio Atesino: wet meadow [23]. Eppan / Appiano: embankment of drainage ditch [23]. St. Felix / San Felice: montane spruce forest; bogs; larch forest pasture [30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Holarctic.

*Mycobates alpinus* (Willmann, 1951)



**South Tyrol:** Reschen / Resia: subalpine larch forest [22]. Dolomites—Schlern / Sciliar area: Touristensteig—mountain pine shrubs; grassy dwarf shrub heath with cushion plants on cliff; Schlernplateau—bogs in alpine grassland; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest; scree slope; subalpine meadow [20]; Tiers / Tires: subalpine forest [19]. La Val / Wengen / La Valle: Armentara—*Rhododendretum*; subalpine limestone rocks [29].

**General distribution:** Italian Alps: BZ; [southern Italy (cf. *M. alpinus*)]; Austria; Alps (endemic). Mainly in subalpine to alpine habitats.

*Mycobates bicornis* (Strenzke, 1954)

**South Tyrol:** Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; bogs in alpine grassland [21]; Plattkofel—scree slope [20].

**General distribution:** Italian Alps: BZ; Austria; southern Palaearctic. Mainly in montane to alpine habitats.

*Mycobates carli* (Schweizer, 1922)

**South Tyrol:** Southern Zillertal Alps (2000–2800 m) [7, 8, 13]. Reschen / Resia: subalpine larch forest and pasture [22]. Matscher Tal / Val di Mazia: montane forest [35]. Ridnauntal / Val Ridanna: montane forest; rocky steppe; dry grassland [28, sub *Mycobates* sp.]. Sarntal / Val Sarentino: subalpine meadow [31]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; Saltner-Schwaige—hay meadow, dry grassland, marshy slope; mountain pine shrubs; Schlernplateau—bogs in alpine grassland; alpine pasture; scree around summit Petz / M. Pez, cushion plants [21]; Plattkofel—montane pine forest; subalpine meadow [20]; Tiers / Tires: subalpine forest; brookside Angelbach [19].

**General distribution:** Italian Alps: BZ [TN (cf.)]; Austria; Switzerland; Central Europe (Alps), South, Southeast Europe, Caucasus. Mainly in alpine habitats.

*Mycobates parmelliae* (Michael, 1884)

**South Tyrol:** Münstertal / Val Monastero: downy oaks on scree slope [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: dwarf shrub heath; bark on trees, lichens; pond “Hilbenlacke” (submerged habitat) [28]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: scree slope [24]. Dolomites—Schlern / Sciliar area: Völser Weiher—waterside with reeds [21]; Tiers / Tires: larch forest pasture, dry grassland [21]. St. Felix / San Felice: larch forest pasture [30]. [Mountains around Brenner Pass, on Austrian side of the border, 3, 12, 13]

**General distribution:** Italian Alps: BZ TN; southern Italy; Austria; Switzerland; Holarctic. Frequently in montane to alpine habitats.

*Punctoribates hexagonus* Berlese, 1908

**South Tyrol:** Jenesien / San Genesio Atesino: marshy slope [23]. Fennberg / Favogna: waterside with reeds [23].

**General distribution:** Italian Alps: BZ northern, southern Italy, Sicily; Austria; Holarctic, Ethiopian, Oriental.

*Punctoribates palustris* (Banks, 1895)

**South Tyrol:** Eppan / Appiano: Kleiner Montiggler See—marsh forest [unpubl.]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ; East, Southeast Europe, Caucasus, Canada (Yukon).

*Punctoribates punctum* (C.L. Koch, 1839)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: fertilized meadows [34]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. La Val / Wengen / La Valle: Armentara—*Rhododendretum* [29]. Montan / Montagna: Castelfeder—dry grassland; mixed deciduous forest [27]. Neumarkt / Egna: embankment of drainage ditch [unpubl.]. St. Felix / San Felice: larch forest pasture; bog and sedimentation zone at Felixer Weiher / Lago di Tret [23, 30].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic to semicosmopolitan.

*Punctoribates sellnicki* Willmann, 1928

**South Tyrol:** Burgstall / Postal: dry meadow on embankment and riparian forest along river Etsch / Adige [16]. Dolomites—Schlern / Sciliar area: Tiers / Tires: montane wet meadow [19]. Neumarkt / Egna: riparian forest at the mouth of Trudner Bach / Rio Trodena; Kurtinig / Cortina sulla Strada del Vino: ruderal area with shrubs on embankment of river Etsch / Adige [16].

**General distribution:** Italian Alps: BZ; Austria; Switzerland; Palaearctic.

## Fam. Zetomimidae

*Zetomimus furcatus* (Warburton & Pearce, 1905)

**South Tyrol:** Sarntal / Val Sarentino: bog Gisser Au [31]. Tisens / Tesimo: marsh forest [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [unpubl.]. Fennberg / Favogna: waterside with reeds [23].

**General distribution:** Italian Alps: BZ; northern, southern Italy; Austria; Switzerland; Palaearctic, Neotropical.

## Fam. Galumnidae

*Acrogalumna longipluma* (Berlese, 1904)

**South Tyrol:** Mountains around Brenner Pass: limestone phyllit scree (2700 m) [3, sub *Galumna longipluma*, 12, 13]. Reschen / Resia: subalpine pasture [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; montane forest; montane pine forest [34, 35]. Münstertal / Val Monastero: dry grassland [26]. Pfelderer Tal / Val di Plan: montane forest with *Rhododendron* [25]. Ridnauntal / Val Ridanna: montane forest [28]. Sarntal / Val Sarentino: montane forest [31]. Tisens / Tesimo: marsh forest [23]. Ahrntal / Valle Aurina near Bruneck / Brunico: spruce forest [24]. Villnöß / Funes: around spring [unpubl.]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs [21]; Tiers / Tires: larch forest pasture, dry grassland [21]; lower montane forest; subalpine forest; brookside Angelbach [19]. Karneid / Cornedo all'Isarco: bog [23]. Eppan / Appiano: embankment of drainage ditch [23]. Neumarkt / Egna: embankment of drainage ditch [23]. Fennberg / Favogna: beech mixed deciduous forest [23]. St. Felix / San Felice: bog around spring; montane spruce forest; larch forest pasture [23, 30].

**General distribution:** Italian Alps: BG BL BS BZ; northern, southern Italy, Sicily, Sardinia; Austria; Switzerland; Holarctic to semicosmopolitan.

*Centroribates mucronatus* (Canestrini & Canestrini, 1882)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Tiers / Tires: burnt forest site, deciduous and pine forest [21].

**General distribution:** Italian Alps: BZ; northern, southern Italy; South Europe.

*Galumna alata* (Hermann, 1804)

**South Tyrol:** Lana: embankment with shrubs; Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest [24]. Dolomites—Schlern / Sciliar area: Tiers / Tires: brookside Angelbach [19]. Jenesien / San Genesio Atesino: marshy slope [23]. Neumarkt / Egna: embankment of drainage ditch [23].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; cosmopolitan.

*Galumna elimata* (C.L. Koch, 1841)

**South Tyrol:** Dolomites—Schlern / Sciliar area: St. Konstantin—bog [17]

**General distribution:** Italian Alps: BL BS BZ TN; northern, southern Italy, Sicily, Sardinia; Austria; Holarctic, Hawaii.

*Galumna flabellifera* Hammer, 1958

**South Tyrol:** Dolomites—Schlern / Sciliar area: Hoferalpl—pine forest, mountain pine shrubs [21].

**General distribution:** Italian Alps: BZ; northern Italy; Mediterranean, Makaronesia, southern Palaearctic, circumtropical.

**Remark:** A remarkable finding. This species is mainly known from tropical and subtropical regions.

*Galumna lanceata* Oudemans, 1900

**South Tyrol:** Mountains around Brenner Pass: limestone phyllit scree (2700 m [3, sub *G. dorsalis*, 12, 13, sub *Pergalumna dorsalis*]. Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34]. Pfelderer Tal / Val di Plan: dry grassland [25, sub *Pergalumna willmanni*]. Münstertal / Val Monastero: downy oaks on scree slope [26]. Ridnauntal / Val Ridanna: dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow [31]. Lana: embankment with shrubs; Burgstall / Postal: riparian forest along river Etsch / Adige [16]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes, Hauenstein—dry spruce forest; Hoferalpl—mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Bolzano / Bozen: riparian forest at mouth of Talfer / Talvera; riparian and hillside forest at mouth of river Eisack / Isarco; Vadena / Pfatten: riparian forest at river Etsch / Adige [16]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks; mixed deciduous forest [27, part. sub *Pergalumna willmanni*]. Neumarkt / Egna: riparian forest along river Etsch / Adige and the mouth of Trudner Bach / Rio Trodena [16].

**General distribution:** Italian Alps: BZ TN; northern, southern Italy, Sicily; Austria; Switzerland; Palaearctic, Oriental.

**Remark:** synonym: “*Galumna dorsalis*” sensu Willmann (1931) according to Weigmann (2006).

*Galumna obvia* (Berlese, 1914)

**South Tyrol:** Tisens / Tesimo: sedimentation zone at pond [23]. Natz-Schabs / Naz-Sciaves: Raier Moos—wetland [18]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; wet meadow [24]. Villnöß / Funes: marshy area in spruce forest [23]. Dolomites—Schlern / Sciliar area: Völser Weiher—pine forest with springs; waterside with reeds [21]; St. Konstantin—dry grassland; bog [17]; Tiers / Tires: montane wet meadow [19]. Karneid / Cornedo all’Isarco: bog [23]. Eppan / Appiano: Kleiner Montiggler See—marsh forest [23]. St. Felix / San Felice: bogs; bog and sedimentation zone at Felixer Weiher / Lago di Tret [23, 30].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sardinia; Austria; Switzerland; semicosmopolitan.

*Galumna tarsipennata* Oudemans, 1914

**South Tyrol:** Montan / Montagna: Castelfeder—cushion plants; mixed deciduous forest [27].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; southern Palaearctic, rare.

*Pergalumna altera* (Oudemans, 1915)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [34, 35]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis* [31]. Lana: embankment with shrubs; Burgstall / Postal: riparian forest along river Etsch / Adige [16]. Natz-Schabs / Naz-Sciaves: Ölberg—dry grassland [18]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook, Hauenstein—dry spruce forest [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]; montane wet meadow [19]. Bolzano / Bozen: embankment with willow at river Etsch / Adige near Sigmundskron; riparian forest at mouth of river Eisack / Isarco; Vadena / Pfatten: riparian forest at river Etsch / Adige [16]. Montan / Montagna: Castelfeder—dry grassland; cushion plants; moss on rocks; mixed deciduous forest [27]. Neumarkt / Egna: riparian forest along river Etsch / Adige and the mouth of Trudner Bach / Rio Trodena [16]. St. Felix / San Felice: montane spruce forest [30].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily?; Austria; semicosmopolitan.

*Pergalumna dorsalis* (C.L. Koch, 1835)

**South Tyrol:** Matscher Tal / Val di Mazia: dry grassland [34].

**General distribution:** Italian Alps: BZ; northern Italy, Sardinia; Austria; Switzerland; Palaearctic.

*Pergalumna formicaria* (Berlese, 1914)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Sarntal / Val Sarentino: subalpine meadow [31]. Villnöß / Funes: around spring [unpubl.]. Montan / Montagna: Castelfeder—cushion plants; moss on rocks [27].

**General distribution:** Italian Alps: BL (locus typicus) BZ; northern, southern Italy; Austria; Switzerland; Holarctic.

*Pergalumna myrmophila* (Berlese, 1914)

**South Tyrol:** Dolomites—Schlern / Sciliar area: Hoferalpl—mountain pine shrubs [21].

**General distribution:** Italian Alps: BL (locus typicus) BZ; northern, southern Italy, Sicily; Austria; Switzerland; southern Palaearctic, Ethiopian.

*Pergalumna nervosa* (Berlese, 1914)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture; bog; montane pine forest [34, 35]. Pfelderer Tal / Val di Plan: subalpine meadow; montane forest; dry grassland; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dry grassland [28]. Sarntal / Val Sarentino: subalpine meadow; bog Gisser Au [31]. Ahrntal / Valle Aurina near Bruneck / Brunico: riparian forest; around cold air cave [24]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Völser Weiher—pine forest with springs; marsh with willows and reeds; Hoferalpl—pine forest, mountain pine shrubs; Schlernplateau—subalpine grassland on volcanic rock layers [21]; Plattkofel—subalpine meadow [20]; Tiers / Tires: burnt forest site, deciduous and pine forest; larch forest pasture, dry grassland [21]. Karneid / Cornedo all'Isarco: bog [23]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27]. St. Felix / San Felice: larch forest pasture [30].

**General distribution:** Italian Alps: BS BZ TN; northern, southern Italy, Sardinia; Austria; Switzerland; Holarctic, Ethiopian.

*Pilogramma crassiclava* (Berlese, 1914)

**South Tyrol:** Reschen / Resia: Froi—dry grassland [22]. Matscher Tal / Val di Mazia: dry grassland; larch forest pasture [34, 35]. Münstertal / Val Monastero: dry grassland; downy oaks on scree slope [26]. Ridnauntal / Val Ridanna: dwarf shrub heath [28]. Sarntal / Val Sarentino: subalpine forest; montane forest; *Alnetum viridis* [31]. Burgstall / Postal: riparian forest at river Etsch / Adige [16]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; Hoferalpl—mountain pine shrubs [21]; Tiers / Tires: burnt forest site, deciduous and pine forest [21]. Bolzano / Bozen: embankment with willow at river Etsch / Adige near Sigmundskron; riparian forest along river Talfer / Talvera [16]. Montan / Montagna: Castelfeder—cushion plants; moss on rocks; mixed deciduous forest [27]. Eppan / Appiano: embankment of drainage ditch [23]. Kurtinig / Cortina sulla Strada del Vino: ruderal area on embankment of river Etsch / Adige [16]. Fennberg / Favogna: beech mixed deciduous forest [unpubl.]. Altrei / Anterivo: Langes Moos / Palù Longa—bog [unpubl.].

**General distribution:** Italian Alps: BZ; northern, southern Italy, Sicily, Sardinia; Austria; southern Palaearctic.

*Pilogramma tenuiclava* (Berlese, 1908)

**South Tyrol:** Reschen / Resia: marshy slope [22]. Matscher Tal / Val di Mazia: bog [35]. Pfelderer Tal / Val di Plan: bog; leaf litter and cushion plants in limestone cliff [25]. Ridnauntal / Val Ridanna: dry grassland [28]. Sarntal / Val Sarentino: subalpine forest; *Alnetum viridis*; bog Gisser Au [31]. Burgstall / Postal: embankment with shrubs at river Etsch / Adige [16]. Tisens / Tesimo: marsh forest [23]. Dolomites—Schlern / Sciliar area: Bad Ratzes—montane forest along brook; montane forests; Hauenstein—dry spruce forest; Völser Weiher—pine forest with springs; waterside with reeds [21]; St. Konstantin—dry grassland; bog [17]; Hoferalpl—mountain pine shrubs; Tierser Alpl—scree with cushion plants; Schlernplateau—subalpine grassland on volcanic rock layers; scree around summit Petz / M. Pez, cushion plants [21]; Tiers / Tires: burnt forest site, deciduous and pine forest

[21]; montane wet meadow; brookside Angelbach [19]. La Val / Wengen / La Valle: Armentara—larch forest pasture; *Rhododendretum*; wet meadow, *Nardetum*; subalpine meadow; subalpine limestone rocks [29]. Bolzano / Bozen: embankment with willow at river Etsch / Adige near Sigmundskron; riparian forest at mouth of river Eisack / Isarco [16]. Eppan / Appiano: embankment of drainage ditch [23]. Montan / Montagna: Castelfeder—moss on rocks; mixed deciduous forest [27]. Kurtinig / Cortina sulla Strada del Vino: ruderal area on embankment of river Etsch / Adige; embankment of drainage ditch [16, 23]. St. Felix / San Felice: bogs [30].

**General distribution:** Italian Alps: BG BL BZ TN; northern, southern Italy; Austria; Switzerland; Holarctic.

### Doubtful and erroneous records

Schmölzer (1962, 1994) [3, 12] and Schmölzer & Hellrigl (1996) [13] reported numerous records from the Austrian side of the border of the Brenner Pass mountains in the close vicinity of South Tyrol which are integrated in the foregoing species catalogue as far as they also occur on the southern Italian side. The following list contains species with records from the Austrian side of the border. Also erroneous and doubtful names are listed here.

“*Alphypochthonius alpinus* Schweizer, 1956”

South Tyrol: Mountains around Brenner Pass (2650–2734 m) [12, 13]

**Remark:** An unknown juvenile Ceratozetidae, probably *Melanozetes* according to Hammen (1959).

“*Alphypochthonius nivalis* Schweizer, 1956”

South Tyrol: Mountains around Brenner Pass (2800 m) [12, 13]

**Remark:** An unknown juvenile Ceratozetidae, probably *Melanozetes* according to Hammen (1959).

“*Parhypochthonius nivalis* Schweizer, 1956”

South Tyrol: Mountains around Brenner Pass (2800 m) [12, 13].

**Remark:** An unknown juvenile Brachypylina according to Hammen (1959).

*Phthiracarus piger* (Scopoli, 1763)

Mountains around Brenner Pass: dwarf shrub heath (1900–2050 m) [3, 12, 13]

**Remark:** only recorded from the Austrian side of the border.

*Damaeus (Spatiodamaeus) crassispinosus* Mihelčič, 1964

**Remark:** Schmölzer & Hellrigl (1996) [13] listed this species: “Südtirol: terra typica”. Mihelčič (1964) described and recorded *Damaeus (Spatiodamaeus) crassispinosus* from Austria (Carinthia) and gives no hint to a find in South Tyrol.

“*Suctobelbella cornigera* (Berlese, 1902)”

Mountains around Brenner Pass: dwarf shrub heath (2050 m) [3, sub *Suctobelba cornigera*, 12, 13].

**Remark:** only recorded from the Austrian side of the border. Status and synonymy unclear.

“*Suctobelbella pulchra* (Mihelčič, 1964)”

**Remark:** Schmölzer & Hellrigl (1996) [13] listed “*Suctobelbella pulchra* Mihelčič, 1964: Südtirol: terra typica” which might refer to *Belba pulchra* Mihelčič, 1964 and was found in South Tyrol. *Suctobelba pulchra* Mihelčič, 1958 was described from Austria (Carinthia) and is only known from there (listed as “*Suctobelbella pulchra* sp. inqu.” in Subías 2010, 2018).

### Corrigenda

A large number of material was controlled and redetermined for this compilation. Some erroneously determined



species were detected and certain names used in previous publications have to be corrected (Table 1).

**TABLE 1.** Oribatid mites in South Tyrol: Corrections of species names in previous publications.

Name in previous publications	sensu	considered as
<i>Coronoquadroppia parallela</i>	Fischer & Schatz (2010), Schatz & Fischer (2011)	<i>Coronoquadroppia monstrosa</i> (Hammer, 1979)
<i>Damaeus clavipes</i>	Schatz (2005b, 2016)	<i>Spatiodamaeus verticillipes</i> (Nicolet, 1855)
<i>Eupelops hygrophilus</i>	Schatz (2005c, 2016), Fischer & Schatz (2010, 2015, partim)	<i>Eupelops strenzkei</i> (Knülle, 1954)

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**TABLE 1.** (Continued)

Name in previous publications	sensu	considered as
<i>Euphthiracarus cribrarius</i>	Schatz (2008a)	<i>Euphthiracarus reticulatus</i> (Berlese, 1913)
<i>Graptoppia foveolata</i>	Schatz (2016), Schatz <i>et al.</i> (2013)	<i>Oxyoppia europaea</i> Mahunka, 1982
<i>Hermanniella granulata</i>	Schatz (2005a, 2016)	<i>Hermanniella septentrionalis</i> Berlese, 1910
<i>Hoplophthiracarus illinoisensis</i>	Fischer & Schatz (2010)	<i>Austrophthiracarus pavidus</i> (Berlese, 1913)
<i>Kartoeremaeus cf. areolatus</i>	Fischer & Schatz (2007)	<i>Eueremaeus valkanovi</i> (Kunst, 1957)
<i>Latilamellobates cf. oxypterus</i>	Fischer & Schatz (2007)	<i>Trichoribates scilierensis</i> Bayartogtogkh & Schatz, 2008
<i>Liacarus oribatelloides</i>	Schatz & Fischer (2014)	variety of <i>Liacarus coracinus</i> (C.L. Koch, 1841)
<i>Liochthonius leptaleus</i>	Schatz (2008a)	<i>Liochthonius brevis</i> (Michael, 1888)
<i>Liochthonius simplex</i>	Schatz & Fischer (2016), Schatz (2016)	<i>Liochthonius brevis</i> (Michael, 1888)
<i>Mesotritia nuda</i>	Schatz (2016), Schatz & Fischer (2014)	<i>Euphthiracarus monodactylus</i> (Willmann, 1919)
<i>Nanhermannia elegantula</i>	Fischer & Schatz (2010)	<i>Nanhermannia nana</i> (Nicolet, 1855)
<i>Nothrus biciliatus</i>	Schatz (2005a)	<i>Nothrus anaunensis</i> Canestrini & Fanzago, 1876
<i>Oribatella sexdentata</i>	Schatz (2008a)	<i>Oribatella superbula</i> Berlese, 1904
<i>Phthiracarus anonymus</i>	Schatz (2008, 2016), Fischer & Schatz (2007)	<i>Phthiracarus longulus</i> (C.L.Koch, 1841)
<i>Phthiracarus clavatus</i>	Schatz (2008a)	<i>Phthiracarus longulus</i> (C.L.Koch, 1841)
<i>Phthiracarus italicus</i>	Fischer & Schatz (2010)	<i>Phthiracarus ferugineus</i> (C.L. Koch, 1841)
<i>Phthiracarus lentulus</i>	Schatz (2008a)	<i>Phthiracarus crinitus</i> (C.L. Koch, 1841)
<i>Protoribates dentatus</i>	Fischer & Schatz (2010), Höpperger & Schatz (2013)	<i>Protoribates lophothrichus</i> (Berlese, 1904) nec Willmann (1931)
<i>Pseudachipteria magna</i>	Fischer & Schatz (2010)	<i>Achipteria nitens</i> (Nicolet, 1855)
<i>Pseudoppia mediocris</i>	Schatz <i>et al.</i> (2013), Schatz & Fischer (2014), Schatz (2016)	<i>Pseudoppia</i> sp. nr. <i>mediocris</i>
<i>Quadroppia galaica</i>	Fischer & Schatz (2007, 2010), Fischer <i>et al.</i> (2009, partim), Schatz (2008a, 2016)	<i>Quadroppia quadricarinata</i> (Michael, 1885)
<i>Quadroppia maritalis</i>	Fischer <i>et al.</i> (2009), Schatz & Fischer (2014), Schatz (2016)	<i>Quadroppia hammerae</i> Minguez, Ruiz & Subias, 1985
<i>Ramusella insculpta</i>	Höpperger & Schatz (2013, partim)	<i>Multioppia glabra</i> (Mihelčič, 1955)
<i>Ramusella mihelcici</i>	Fischer & Schatz (2009)	<i>Ramusella elliptica</i> (Berlese, 1908)

<i>Scutovertex ianus</i>	Schatz & Fischer (2012 ), Schatz (2016)	<i>Scutovertex minutus</i> (C.L. Koch, 1835)
<i>Steganacarus herculeanus</i>	Schatz (2016), Schatz <i>et al.</i> (2013)	<i>Steganacarus applicatus</i> (Sellnick, 1920)
<i>Steganacarus magnus</i> forma <i>magna</i>	Fischer & Schatz (2010)	<i>Steganacarus applicatus</i> (Sellnick, 1920)
<i>Suctobelbella hamata</i>	Schatz (2016), Schatz & Fischer (2011)	<i>Suctobelbella sarekensis</i> (Forsslund, 1941)
<i>Suctobelbella prominens</i>	Schatz (2016), Schatz & Fischer (2012)	<i>Suctobelbella arcana</i> Moritz, 1970

.....continued on the next page

**TABLE 1.** (Continued)

Name in previous publications	sensu	considered as
<i>Suctobelbella prominens</i>	Fischer & Schatz (2010)	<i>Suctobelbella subcornigera</i> (Forsslund, 1941)
<i>Suctobelbella singularis</i>	Schatz (2016 partim), Schatz <i>et al.</i> 2013	<i>Suctobelbella falcata</i> (Forsslund, 1941)
<i>Suctobelbella singularis</i>	Schatz (2016 partim), Fischer & Schatz 2015	<i>Suctobelbella palustris</i> (Forsslund, 1953)
<i>Tegoribates latirostris</i>	Fischer & Schatz (2007), Schatz (2008a, 2016), Schatz & Fischer (2014)	<i>Tegoribates</i> sp. (n.)
<i>Trichoribates</i> sp.	Fischer & Schatz (2010)	<i>Oromurcia sudetica</i> Willmann, 1939
<i>Trimalaconothrus tardus</i>	Fischer & Schatz (2010)	<i>Malaconothrus monodactylus</i> (Michael, 1888)
<i>Tyrphonothrus maior</i>	Schatz (2005b, 2016 partim)	<i>Tyrphonothrus glaber</i> (Michael, 1888)
<i>Xenillus</i> cf. <i>tegeocranus</i>	Höpperger & Schatz (2013)	<i>Xenillus tegeocranus</i> (Hermann, 1804)
<i>Pergalumna willmanni</i>	Höpperger & Schatz (2013), Schatz (2016), Schatz & Fischer (2011)	<i>Galumna lanceata</i> Oudemans, 1900

## General remarks

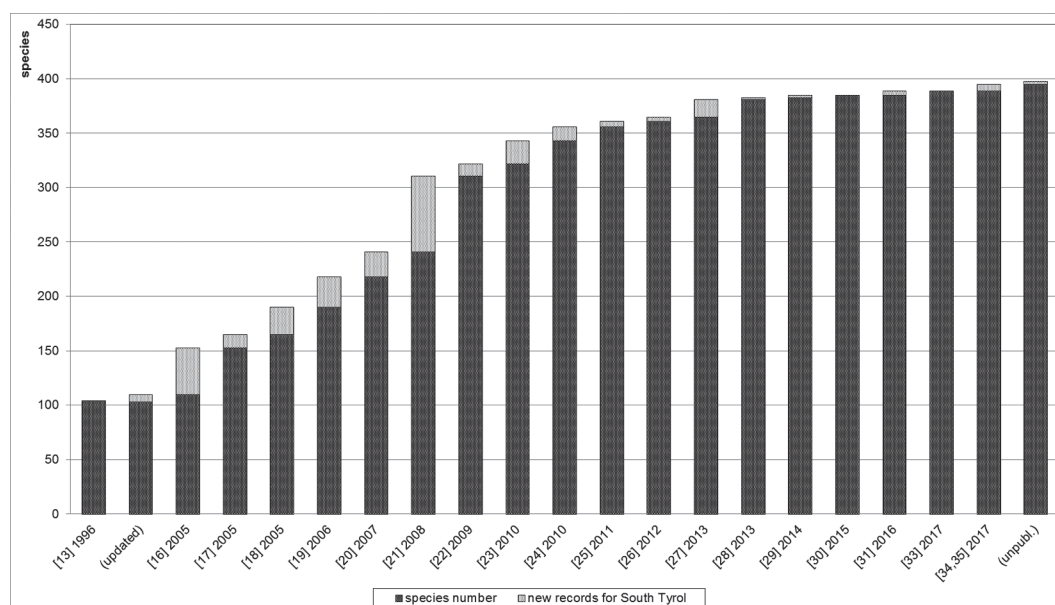
A total of 397 described species, 2 subspecies and 15 undetermined species of oribatid mites (in sum 414 species and subspecies) are included in the above checklist. Among the 15 undetermined taxa are 11 from recent own projects which will be studied or described in the near future, and 4 from the investigations of Schmölzer (1962, 1994). The latter material is not available anymore, so these records will remain doubtful. A short historical overview of the exploration is given below, followed by a biogeographic overview and a comparison with adjacent countries and provinces.

## Historical overview

Numerous collections and species descriptions were carried out in the Italian Alps in the surroundings of South Tyrol since more than 100 years, especially by Berlese (see Castagnoli & Pegazzano 1985), as well as for instance Valle (1955), Zangheri (1963), Bernini (1976, 1978), Baratti *et al.* (2000), Marcuzzi (2003), Schatz & Schatz (2009). Compared with that the studies on soil fauna and oribatid mites in South Tyrol started relatively late. The first oribatid species in South Tyrol was recorded by Janetschek (1957) from the Langkofel Gruppe (“*Trichoribates montanus*”). Mihelčič (1962) studied the migration patterns of “meridional” oribatid species (with distribution center in South Europe and North Africa) through South Tyrol and collected several species, primarily in sun-exposed soils of the larger valleys, but also in other parts of the country (Mihelčič 1964). Also Schuster (1965) contributed species records, mainly from the Eisack / Isarco and Etsch / Adige valleys (partially published by Krisper 1983, 1984, 1987). Two investigations in the high Central Alps along and near the northern border of South

Tyrol added a large species number to the known oribatid fauna of South Tyrol: one around the Brenner Pass (Schmölzer 1962, 1994), the other in the Southern Zillertal Alps (Peskoller 1970, Mihelčič 1971, Christandl-Peskoller & Janetschek 1976). These previous records were compiled by Schmölzer & Hellrigl (1996) who registered 111 known oribatid species for the country (valid and in South Tyrol 103 spp., see above). Scattered findings were published shortly afterwards (Schatz & Gerecke 1996, Hellrigl 2002). In the post-millennial years several large scale collecting projects in South Tyrol extended the known species number of oribatid mites and the knowledge on their distribution to a high degree, namely in riparian areas on the river Etsch / Adige (“Project Habitat River Adige”, Gallmetzer *et al.* 2005, Schatz 2005a), in the Dolomites—Schlern / Sciliar area in the Dolomites (“Habitat Schlern / Sciliar project”, Schatz 2008a, 2008b, Wilhalm *et al.* 2008), in wetlands (Fischer & Schatz 2010), on the hill of Castelfeder in the South Tyrolean Unterland / Bassa Atesina (Höpperger & Schatz 2013), in the Matscher Tal / Val di Mazia (in the frame of the “LTSER—Long-term Socio-Ecological Research Network Matscher Tal / Val di Mazia”, Schatz 2017a), as well as regularly collections in the course of the annually biodiversity days in South Tyrol (details see Schatz 2016). Despite these intensive studies the knowledge on oribatid fauna of South Tyrol is still incomplete; almost on each additional collection new species records can be expected.

Figure 1 specifies the increase of knowledge and new records of oribatid mites species in South Tyrol in the course of different projects and collecting events. The largest number of new species records was attained on the occasion of the “Habitat Schlern / Sciliar project” (Schatz 2008a, 70 new records from 250 species in total). The collections prior 2008 contained more new records than after this large scale project.



**FIGURE 1.** Oribatid mites in South Tyrol: Increase of known species with year of publication (number of publication in square brackets, see chapter “References with species records in South Tyrol”).

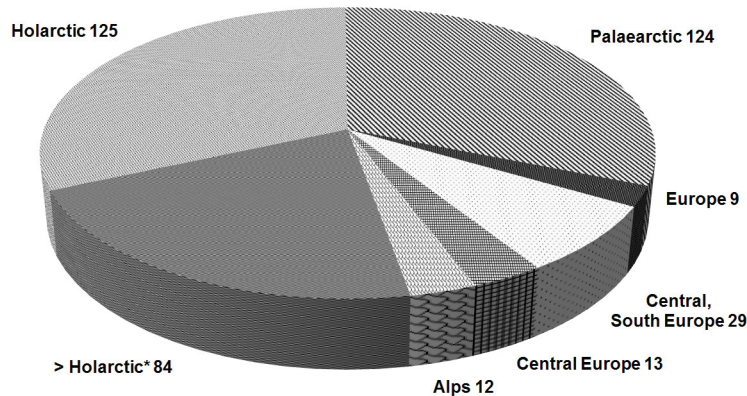
### Biogeographic overview

Most the 397 described species listed in this catalogue have a wide general distribution: 13% are known from Europe, 31% from the Palearctic, 32% from the Holarctic region, 21% have a wider distribution and are considered as cosmopolitan or semicosmopolitan species (Fig. 2). A small number (12 species, 3%) are known only from the Alps, among them *Trichoribates scilieriensis*, *T. zingerlei*, *Xenillus athesis* were hitherto only recorded in South Tyrol (an unpublished record of *T. scilieriensis* was reported in Trentino from F. Bernini, pers. comm.). A total of 16 species were originally described from South Tyrol.

The families richest in species are Oppiidae (29 spp.), Ceratozetidae (26 spp.), Damaeidae (26 spp.), Brachychthoniidae (25 spp.), Suctobelbidae (24 spp. and 1 ssp.), Phenopelopidae, Oribatulidae, Galumnidae (15 spp. each), Phthiracaridae, Scheloribatidae (14 spp. each), Carabodidae (12 spp.), Crotoniidae, Liacaridae,

Mycobatidae (11 spp. each). On the other hand six families are represented with 3 spp., 8 families with 2 spp., and 24 families with 1 sp. each.

More than 25% (101 spp.) of the species can be considered as “Mediterranean” or “southern” species. Their distributional center is situated in south and southeast Europe, around the Mediterranean Sea or around the Black and Caspian Sea. Some of them also occur in the southern Palearctic region in dry grasslands, steppes or semideserts (Schuster 1959, 1960, Tarman 1977, Bayartogtokh *et al.* 2011, Höpperger & Schatz 2013). The relatively high percentage of these “southern” species in South Tyrol is remarkable, their proportion is highest in the dry valleys and decreases in higher altitudes. This demonstrates the importance of the xerothermic Etsch and Vinschgau valleys (partially also the Puster and Eisack valleys) as dispersal routes for southern European species towards north, up to the dry grasslands and forests of the Inn valley in North Tyrol (Mihelčič 1962, Schatz & Fischer 2015, Schatz 2017b).



**FIGURE 2.** Oribatid mite species in South Tyrol: General distribution of the species (total 397 described species).  
 \* “> Holarctic” comprises here species with records in tropical regions or with cosmopolitan distribution.

Compared to its size Italy contains one of the highest numbers of known oribatid species in the world. Presently approximately 852 species and 9 subspecies<sup>5</sup> are reported. Among them, 118 species and 1 subspecies are reported from South Tyrol only. This frequently concerns species with distribution center in the Alps or Central Europe. The oribatid mite fauna of South Tyrol has close similarities with adjacent regions in the Alps and surrounding provinces (Tab. 2), especially in the mountainous regions. The highest overlap in common species is given with Austria and North Tyrol which can be explained by a comparable level of knowledge of oribatid species but also by similar climatological and landscape features.

**TABLE 2.** Oribatid mites (Acari, Oribatida) in South Tyrol: species similarity with adjacent regions.

<sup>a</sup> Bernini *et al.* (1995), updated, see footnote (<sup>5</sup>). <sup>b</sup> present catalogue. <sup>c</sup> including unpublished records (F. Bernini, pers. comm.). <sup>d</sup> Krisper *et al.* (2017), without subspecies. <sup>e</sup> unpublished data.

Region	Known species	species common with South Tyrol	
Italy total	852 <sup>a</sup>	295	(74%)
South Tyrol (Prov. Bolzano)	398 <sup>b</sup>	398	(100%)
Prov. Trento	291 <sup>c</sup>	215	(54%)
Prov. Sondrio	121 <sup>c</sup>	91	(23%)
Prov. Belluno	128 <sup>c</sup>	96	(24%)
Austria total	606 <sup>d</sup>	369	(93%)

5. This number is based on Bernini *et al.* (1995, online database 2003) and updated by using data from Baratti *et al.* (2000), Migliorini (2009), Caruso *et al.* (2009) and Schatz & Schatz (2009). Species, subspecies and varieties described by G. Lombardini are not included (see Bernini *et al.* 1995, Subías 2017). The number includes 38 species with uncertain status (regarded as “cf.”) and 55 unnamed species (“sp.”).



North Tyrol	420 <sup>d</sup>	331	(83%)
East Tyrol	241 <sup>d</sup>	194	(49%)
Switzerland total	431 <sup>e</sup>	270	(68%)
Grisson	226 <sup>e</sup>	164	(41%)

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